MPEG4 Internet Camera

User's Guide

Version 1.0

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ABOUT THIS GUIDE

This manual provides instructions and illustrations on how to use your MPEG4 Internet Camera, includes:

- Chapter 1, **Introduction**, provides the general information on the camera.
- Chapter 2, **Hardware Installation**, describes the hardware installation procedure for the camera.
- Chapter 3, **Security**, explains the security feature of the camera.
- Chapter 4, **Application of the Camera**, provides the illustrations of the camera's applications.
- Chapter 5, **Using the Camera**, guides you through the configuration using the web browser.
- Chapter 6, **FFdshow & AVISavior**, helps you to use the utilities provided within the Installation CD.
- Chapter 7, **IPView Pro**, helps you to install and use the software.
- Chapter 8, **Appendix**.

Please note that the illustrations or setting values in this manual are **FOR YOUR REFERENCE ONLY**. The actual settings and values depend on your system and network. If you are not sure about the respective information, please ask your network administrator or MIS staff for help.

1

INTRODUCTION

Thank you for purchasing MPEG4 Internet Camera, a standalone system that can be connected directly to an Ethernet or Fast Ethernet, and also supported by the wireless transmission based on the IEEE 802.11g standard*. With support for latest MPEG4 technology, you can record streaming video that utilizes high quality MPEG4 images to your hard drive, enable motion detection and setup automated email alerts for security. The built-in microphone provides you with the audio function, allowing you to **"watch"** and **"listen"** from the camera. Compared to the conventional PC Camera, the camera features a built-in CPU and web-based solutions that can provide a cost-effective solution to transmit the real-time high-quality video images and sounds synchronously for monitoring.

The camera can be managed remotely, so that you can use a web browser to access and control it from any notebook/desktop PC over the Intranet or Internet. The simple installation procedures and web-based interface allow you to integrate it into your network easily. With comprehensive applications supported, the Internet camera is your best solution for remote monitor, high quality, and high performance video images.

** For wireless model.*

Features and Benefits

Simple To Use

The MPEG4 Internet Camera is a standalone system with built-in CPU, no special hardware (such as a PC frame capture card) or software required. The camera supports DirectX 9.0; therefore, the only requirement you need is the web browser software such as Internet Explorer 5.0 or above. Once you have a valid IP Address, just connect it and you can view the picture and receive sound from your camera. In addition, the camera's stand allows you to adjust the camera for optimal viewing angle.

Support Variety of Platforms

The camera supports TCP/IP networking, SMTP e-mail, HTTP and other Internet related protocols. It can be utilized in a mixed operating system environment, including Windows 98SE/ME/ 2000/XP. Moreover, it can be integrated easily into other www/ Intranet applications.

Web Configuration

Applying a standard web browser, the administrator can configure and manage the camera directly from its own web page via the Intranet or Internet. Up to **64** users name and password are permitted with privilege setting controlled by the administrator.

Remote Utility

The powerful IPView Pro application assigns the administrator with a pre-defined user ID and password, allowing the administrator to modify the camera settings from the remote site via Intranet or Internet. When new firmware is available, you can also upgrade remotely over the network for added convenience. Users are also allowed to monitor the image, and take snapshots.

Broad Range of Applications

With today's high-speed Internet services, the camera can provide the ideal solution for live video images over the Intranet or Internet for remote monitoring. The camera allows remote access from a web browser for live image viewing, and allows the administrator to manage and control the camera anywhere and anytime in the world. Apply the camera to monitor various objects and places such as homes, offices, banks, hospitals, child-care centers, amusement parks and other varieties of industrial and public monitoring. The camera can also be used for intruder detection; in addition, it can capture still images for archiving and many more applications.

Unpacking the Package

Unpack the package and check all the items carefully. In addition to this *User's Guide*, be certain that you have:

- One MPEG4 Internet Camera
- One External Antenna (for wireless model)
- One power adapter
- One RJ-45 Ethernet Cable
- One Camera Stand
- One Installation CD-ROM
- One Quick Installation Guide

If any item contained is damaged or missing, please contact your local dealer immediately. Also, keep the box and packing materials in case you need to ship the unit in the future.

System Requirement

Networking

Local Area Network:

- 10Base-T Ethernet or 100Base-TX Fast Ethernet

Wireless Local Area Network (wireless model):

- IEEE 802.11g Wireless LAN

Accessing the Camera

For Web Browser Users

- Operating System: Microsoft® Windows® 98SE/ME/ 2000/XP
- CPU: Intel Celeron 1.1GHz or above (Intel Pentium 4 is preferred)
- Memory Size: 128MB or above
- Resolution: 800x600 or above
- Microsoft® Internet Explorer 5.0 or above

For IPView Pro Application Users

- Operating System: Microsoft® Windows® 98SE/ME/ 2000/XP.
- CPU: Intel Celeron 1.1GHz or above (Intel Pentium 4 is preferred)
- Memory Size: 128 MB or above
- Resolution: 800x600 or above

Physical Description

This section describes the externally visible features of the camera.

Front Panel

There are two LED indicators on the front panel of the camera: **Power LED** and **Link LED**.

1. Power LED

The Power LED is positioned on the right side of the two LEDs. A steady light confirms that the camera is powered on.

2. Link LED

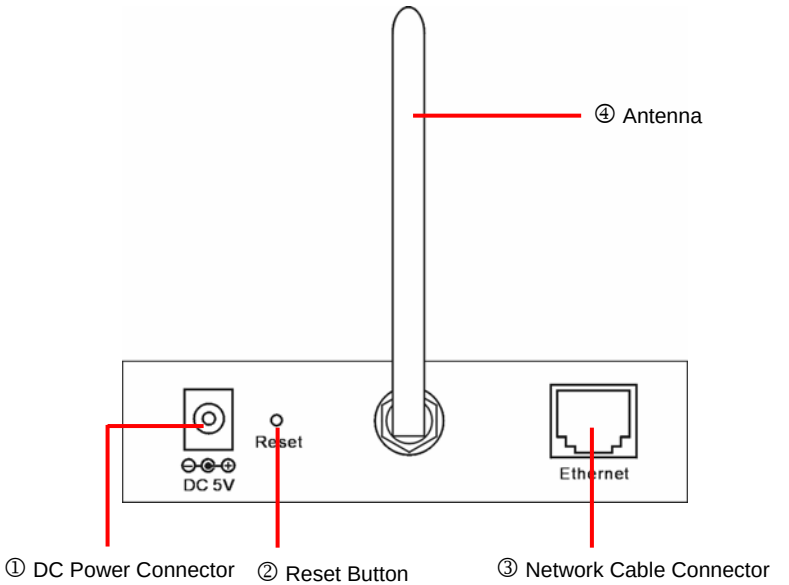
The Link LED is positioned on the left side of the two LEDs. A steady light confirms that the camera has good connection to LAN connectivity.

Dependent on the data traffic, the LED will begin to flash to indicate that the camera is receiving/sending data from/to the network.

3. Internal MIC

The built-in omni-directional microphone allows the camera to receive sound and voice.

Rear Panel



1. DC Power Connector

The DC power input connector is located on the camera's rear panel, and is labeled DC5V 2.5A with a single jack socket to supply power to the camera. Power will be generated when the power supply is connected to a wall outlet.

2. Reset Button

Factory Reset will be initiated when the reset button is pressed continuously for three seconds; meanwhile, the Link LED lights up or blinks. Release the reset button and the Link LED will turn off, indicating that the camera restores the factory default settings.

When factory reset is completed, the configuration of camera will return to the defaults as:

- IP address: **192.168.1.2**
- Administrator's login name: **admin**
- Password: **admin**
- Wireless status (for wireless model): **disabled**

3. Network Cable Connector

The camera's rear panel features an RJ-45 connector for connections to 10Base-T Ethernet cabling or 100Base-TX Fast Ethernet cabling (which should be Category 5 twisted-pair cable). The port supports the N-Way protocol and "AutoMDIX" function, allowing the camera to automatically detect or negotiate the transmission speed of the network.

4. Antenna (for wireless model)

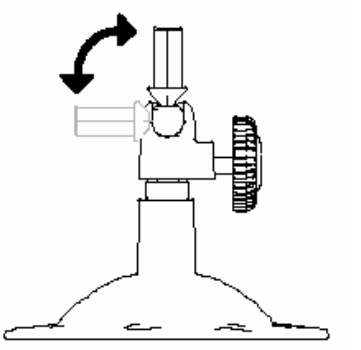
The rotatable external antenna allows you to adjust its position to obtain the maximum signal.

2

HARDWARE INSTALLATION

Attaching the Camera to the Stand

The MPEG4 Internet Camera comes with a camera stand (optional) with a swivel ball screw head that can be attached to the bottom screw hole of camera. Attach the camera stand to the camera and station it for your application. There are three holes located in the base of the camera stand, allowing the camera to be mounted on the ceiling or any wall securely.

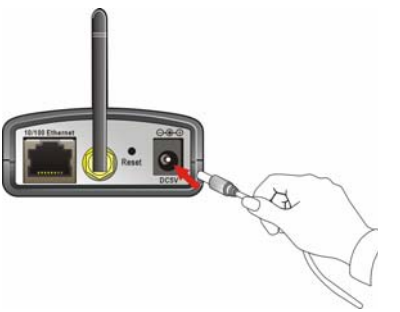


Connecting the Ethernet cable

Connect an Ethernet cable to the network cable connector located on the rear panel of camera, and then attach it to the network.

Attaching the Power Supply

Attach the external power supply to the DC power input connector located on the rear panel of camera, and then connect it to your local power supply.



TIP: *You can confirm power source is supplied from the LED indicators label Power on the MPEG4 Internet Camera is illuminated.*

3

SECURITY

To ensure the highest security and prevent unauthorized usage of the camera the Administrator has the exclusive privilege to access the System Administration for settings and control requirements to allow users the level of entry and authorize the privileges for all users. The camera supports multi-level password protection and access to the camera is strictly restricted to defined the user who has a "User Name" and "User Password" that is assigned by the Administrator.

The administrator can release a public user name and password so when remote users access the camera they will have the right to view the image transmitted by the camera.

NOTE: The default settings of Administrator's login name/password are ***admin/admin****, which are easily to be known by unauthorized users. Therefore, it is strongly recommended to change the login name and password when you are the first time to use the camera.*

4

APPLICATION OF THE CAMERA

The camera can be applied in wide variety of applications. With the built-in CPU, it can work as a standalone system that provides a web-based solution transmitting high quality video images and sounds for monitoring purposes. It can be managed remotely, accessed and controlled from any PC desktop over the Intranet or Internet via a web browser. With the easy installation procedure, real-time live images will be available.

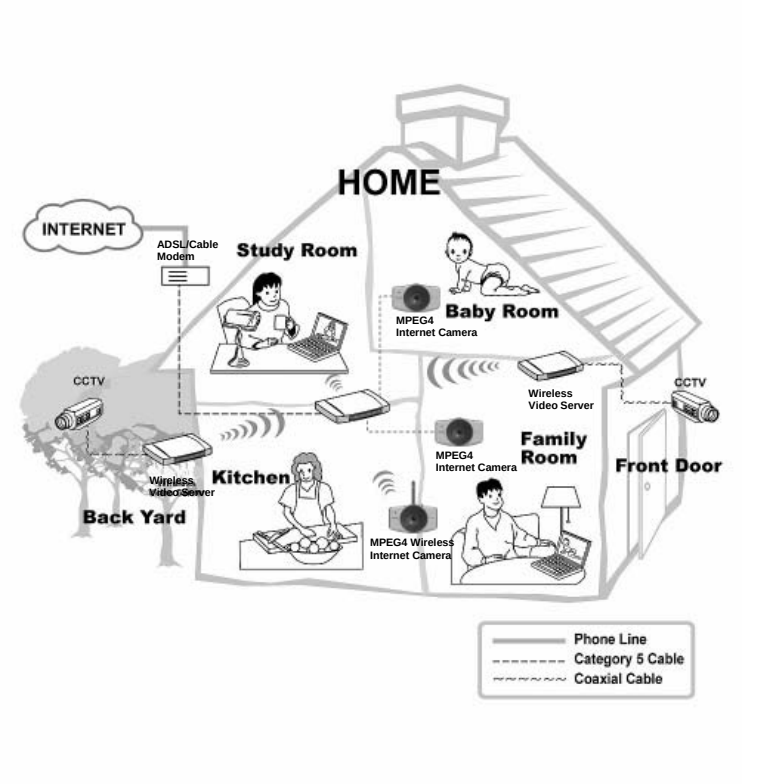
The following section will provide the typical applications for the camera, and also includes some basic knowledge to assist in the installation and configuration of the camera.

Applications:

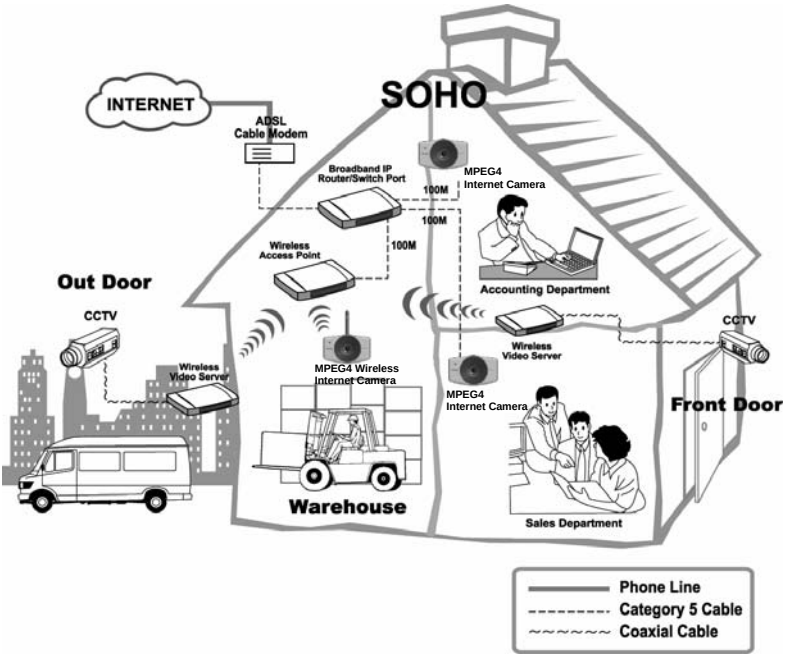
- Monitoring of local and remote places and objects such as construction sites, hospitals, amusement parks, schools and day-care centers through the use of a web browser.
- View image from IPView Pro.
- Configure the camera to save image or send-mail messages with a short video file.

Application Diagrams of the Camera

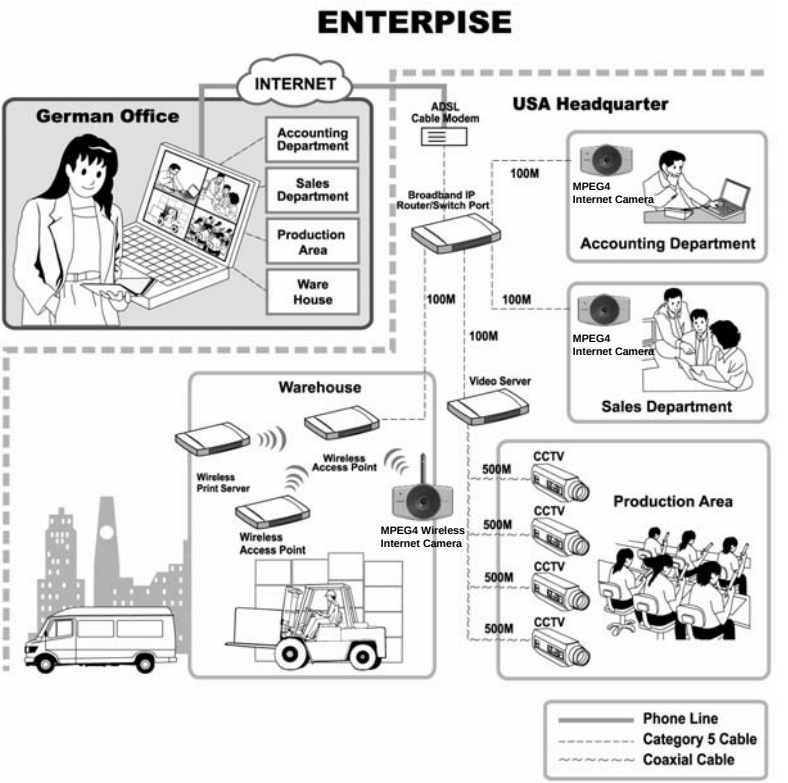
Home Applications



SOHO Applications



Enterprise Applications



5

USING THE CAMERA

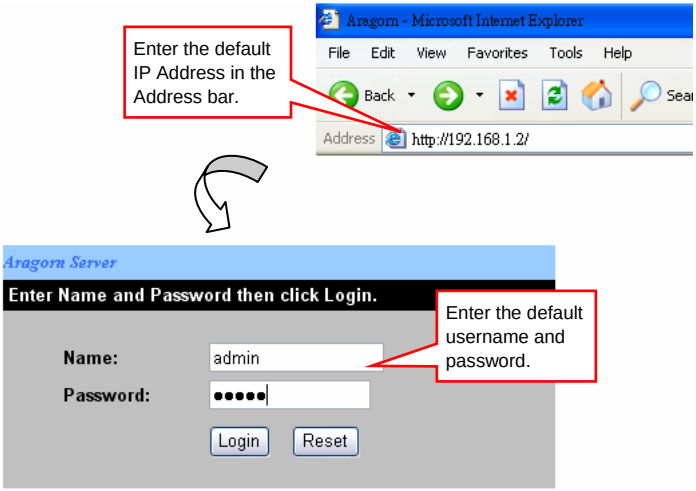
You can access and manage the camera through your web browser. This chapter describes the Web Configuration Utility, and provides the instructions on using the camera with a web browser.

Web Configuration Utility

The camera must be configured through its built-in Web-based Configuration. Whenever you want to configure the camera, open your web browser (e.g. Internet Explorer in this manual), and type the default IP address ***http://192.168.1.2*** in the Address bar and press [Enter]. When the login page appears, type **admin** in the Name and Password box, and then click *Login*

NOTE:

1. *Extensive knowledge of LAN will be helpful in setting up the camera.*
2. *The computer's IP address must correspond with the camera's IP address in the same segment for the two devices to communicate.*

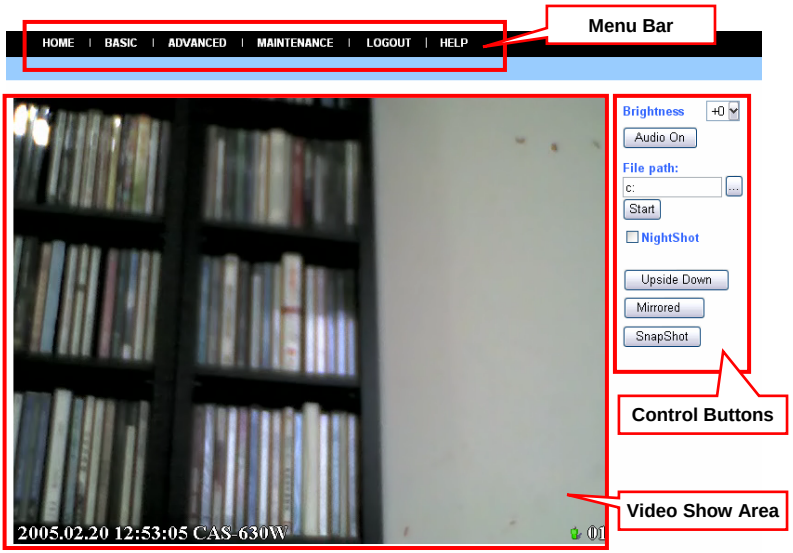


Login Screen of Web Configuration Utility

"**admin**" is the default username and password of the camera, and can be changed in the Web Configuration Utility.

After login, the **Home** window of the Configuration Utility will appear as below, which includes three areas: **Menu Bar**, **Video Show Area**, and **Control Buttons**.

NOTE: If you are denied to enter the Web Configuration Utility, the following warning message will appear on the screen. Please try to enter the correct username and password again, or contact your network administrator.



Home Window

- **Menu Bar** – in the top of the window, containing six items that allow you to setup the camera.
- **Video Show Area** – allows you to view the image from the camera.
- **Control Buttons** – contains some buttons that allow you to control the camera's audio, image, etc.

Controlling and Viewing Image

In the **Home** window, you can control the camera through the control buttons on the right side of the window. The real-time image from the camera will be displayed in the Video Show Area.

Zoom In / Zoom out

Move your mouse to the Video Show Area, and the cursor will change to the icon. Then, you can zoom in/out the image by clicking the left/right button on your mouse.

Adjusting Image Brightness

You can adjust the image brightness level through the **Brightness** option. The range is from +5 to -5.

Audio Function

Click the *Audio On* button to enable the camera's audio function; click again to disable.

Assigning the Destination Folder

The destination folder to save the recorded video file can be specified in the **File path** option. Click the right button to bring up a dialog window, which allows you to assign the destination folder. When assigned, click *Start*.

NightShot

The camera is equipped with a high-resolution CCD lens to provide crystal clear images in real time, even at night. At dark or low light situation, select the **NightShot** option to switch the camera to deliver black & white images.

Changing Image Display

Click the *Upside Down* button to display the image in a vertical mirror mode. Click the *Mirrored* button to display the image in a horizontal mirror mode.

Capturing Still Images

Click the *Snapshot* button to capture a still image of the active camera, and save it into your computer.

Basic Setup

The **Basic** menu contains three steps that will guide you through the basic configuration for the camera. Click **Basic** in the top menu bar to start the step-by-step configuration.

Basic → Network

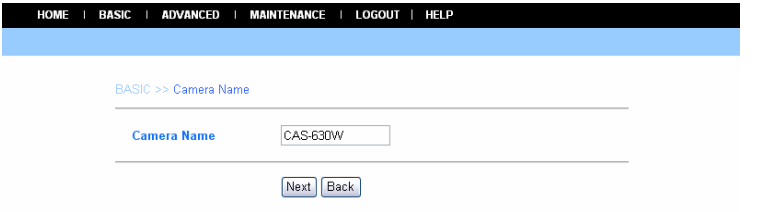
The first step is to configure networking settings of the camera. According to your ISP's service, select one from the three connection types: **LAN**, **PPPoE**, and **DDNS**.

LAN	If your network access uses a fixed IP address or DHCP service, select this option and fill in the required data provided by your network administrator in the fields of **IP Address**, **IP Subnet Mask**, **Gateway IP Address**, and **DNS** (Domain Name Server).
PPPoE	If your network access uses PPPoE (Point-to-Point Protocol over Ethernet), select this option. Fill in the required data in the **User Name** and **Password** fields, which are supplied by your ISP. The IP Address is usually allocated automatically.
DDNS	The camera supports Dynamic DNS (DDNS) feature, which allows you to assign a fixed host and domain name to a dynamic Internet IP address. Select ***Yes*** to enable this function, and then fill in the required data in the **User Name**, **Password** and **Domain Name** fields. Please note that you have to sign up for DDNS service with service providers before using this function.

When completed, click *Next* to continue.

Basic → Camera Name

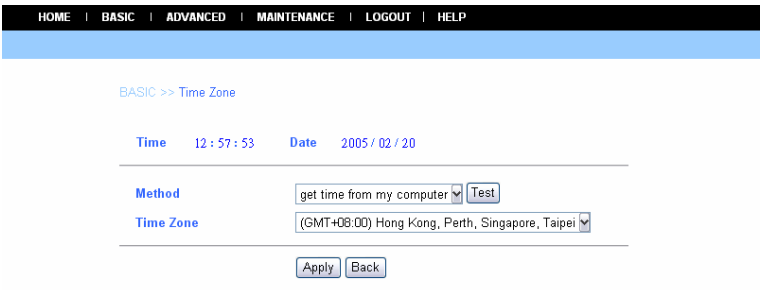
The second step is to setup a descriptive name for the camera.



When completed, click *Next* to continue.

Basic → Time Zone

This step displays the current time setting of the camera. For system management purpose, a correct time setting is critical to have accurate time stamps on the system logs.


HOME | BASIC | ADVANCED | MAINTENANCE | LOGOUT | HELP
BASIC >> Time Zone
Time 12 : 57 : 53 Date 2005 / 02 / 20
Method
get time from my computer
Test
Time Zone
(GMT+08:00) Hong Kong, Perth, Singapore, Taipei
Apply
Back

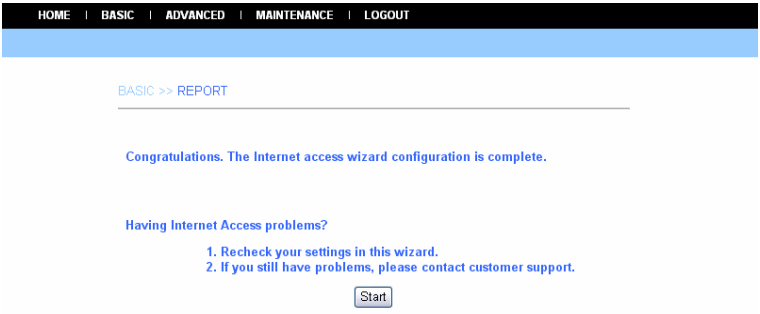
The **Method** pull-down menu allows you to setup the correct time by getting time from the computer or time server (need an Internet connection). After choosing one method from the pull-down-down menu, click *Test*. In the **Time Zone** pull-down menu, select a time zone according to your location.

When completed, click *Apply*. Then it will pop up a warning message on the screen, click *Yes* to confirm the modifications or *No* to reserve the currently settings.

Microsoft Internet Explorer
If you failed to browse the web page after modifications.
Please check your PC and Camera Server network settings and make sure both domains are consistency.
Click 'Yes' to modify or 'No' to reserve the currently settings.
確定
取消

Basic → Report

The last step provides some tips when you have Internet access problems.


HOME | BASIC | ADVANCED | MAINTENANCE | LOGOUT
BASIC >> REPORT
Congratulations. The Internet access wizard configuration is complete.
Having Internet Access problems?
1. Recheck your settings in this wizard.
2. If you still have problems, please contact customer support.
Start

Click ***Start*** to complete your basic network configuration. When completed, you are brought to the **Home** window.

NOTE: During the configuration, you can return to Home window by clicking the HOME button that is available in every page of the utility, or exit the utility by clicking the LOGOUT button whenever you want.

Advanced Setup

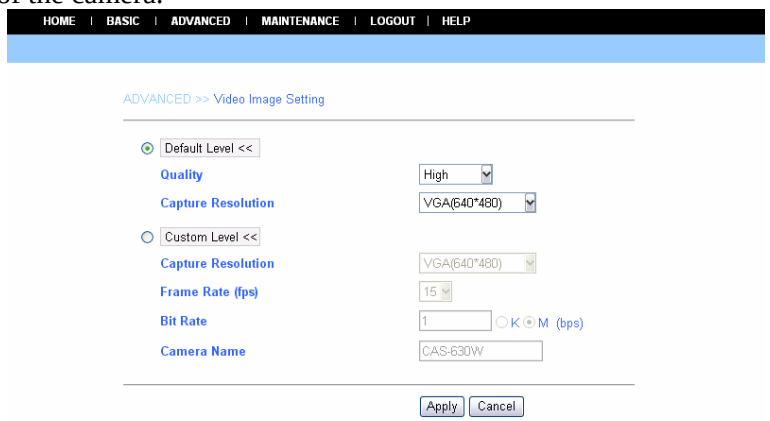
Move your mouse onto the **Advanced** button, and it will automatically pop up a submenu bar, providing six submenu buttons: **Video**, **Network**, **Wireless** (for wireless model), **Tools**, **Account**, and **Timezone**. Each submenu button allows you to access advanced feature settings, and is explained details in the following sections.

Advanced → Video

The **Video** submenu contains three options: **Image Setting**, **Location Setting** and **Motion Detection**.

Image Setting

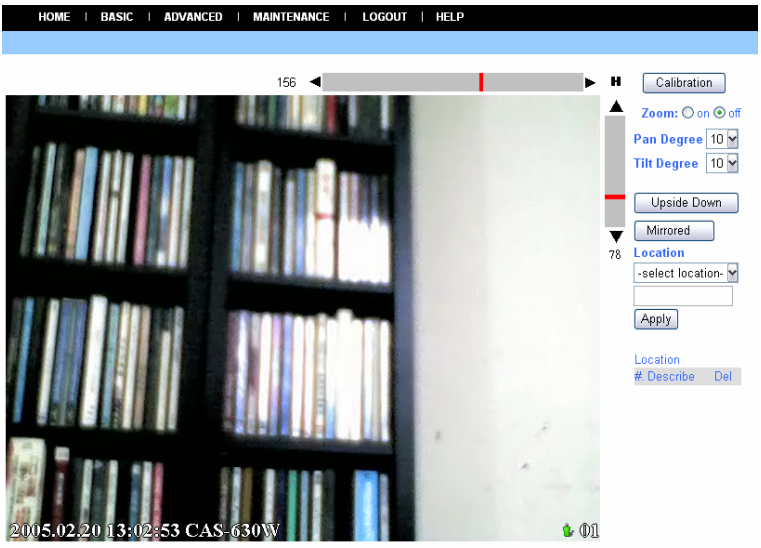
Click the **Image Setting** item of the **Video** submenu to bring up the following page, which allows you to setup the image settings of the camera.



- **Default Level:** Select this option to use the default image settings of the camera.
  - **Quality:** You can setup the image quality from this pull-down list. The default setting is ***High***.
  - **Capture Resolution:** You can setup the image resolution as *VGA*/*QVGA*/*QQVGA* when you capture a still image. The default setting is ***VGA(640*480)***.
- **Custom Level:** Select this option when you want to customize the image configuration.
  - **Capture Resolution:** You can setup the image resolution as *VGA*/*QVGA*/*QQVGA* when you capture a still image. The default setting is ***VGA(640*480)***.
  - **Frame Rate (fps):** Select the optimal setting depending on your network status. The higher setting can obtain better quality; however, it will use more resource within your network. The default setting is ***15***.
  - **Bit Rate:** You can setup bit rate of the image by selecting Kbps or Mbps. The setting range is 4Kbps~3Mbps.The higher setting can obtain better quality; however, it will use more resource within your network.
  - **Camera Name:** You can change the name of the camera.

Location Setting

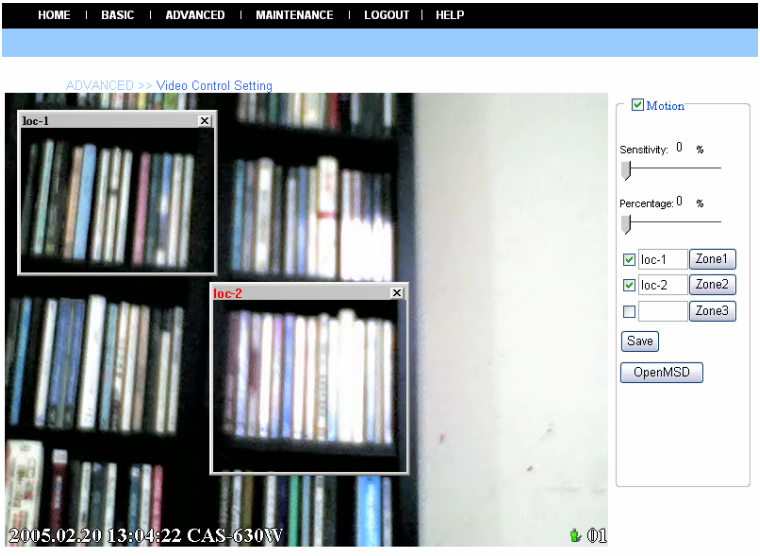
Click the **Location Setting** item of the **Video** submenu to bring up the following page, which allows you to setup the video control settings of the camera.



- **Upside Down:** Display the image in a vertical mirror mode.
- **Mirrored:** Display the image in a horizontal mirror mode.
- **Location:** When you have saved the position in the camera, select the location from the pull-down list, and then click *Apply*. The camera's lens will move to the location immediately.

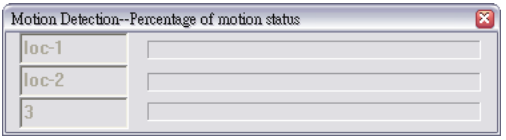
Motion Detection

Click the **Motion Detection** item of the **Video** submenu to bring up the following page, which allows you to setup the motion detection settings of the camera.



- **Motion:** Check this option to enable motion detection function of your camera. Once enabled, you can setup the detecting region by giving a name for respective Zone# (#: 1/2/3). Then, build the Zone window(s) using your mouse to setup the detecting area(s). In addition, move the slide bars to adjust the ***Sensitivity*** level and ***Percentage*** level for detecting motion to record video or to send e-mail.

- **Open MSD:** Click this button to bring up a dialog window that displays the detected motion event(s) of Zone # (#: 1/2/3).

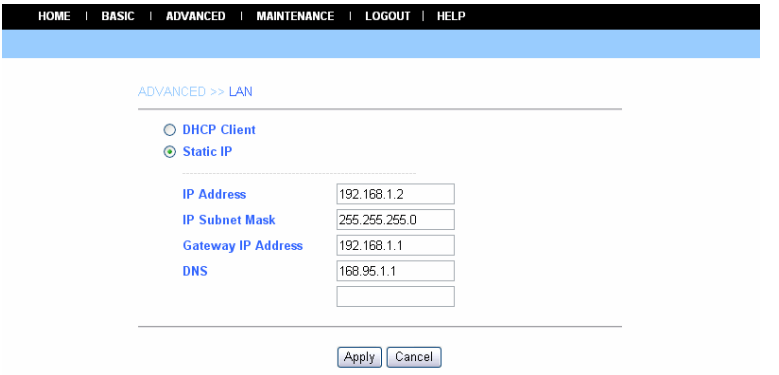


Advanced → Network

The **Network** submenu contains three options: **LAN**, **PPPoE** and **DDNS**. The settings in these three options are the same as in the **Network** under **Basic** configuration. (The settings here are the same as the configuration made in Basic menu.)

LAN

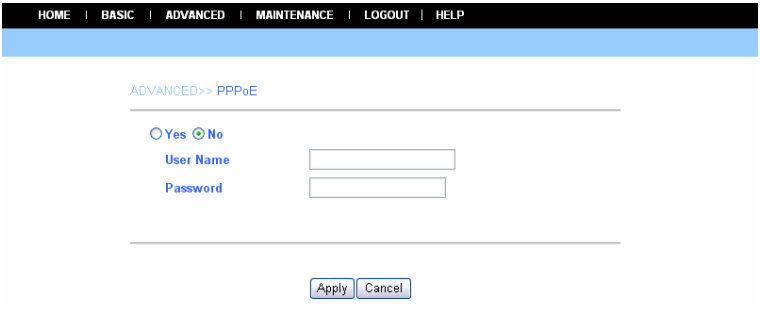
Click the **LAN** item of the **Network** submenu to bring up the following page.



If your network access uses a fixed IP address or DHCP service, select this option and fill in the required data provided by your network administrator in the fields of **IP Address**, **IP Subnet Mask**, **Gateway IP Addres**s, and **DNS** (Domain Name Server).

PPPoE

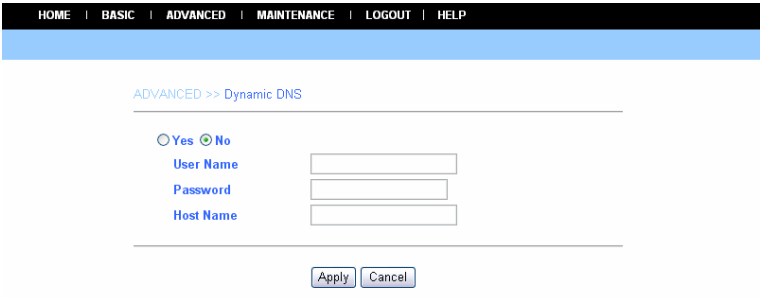
Click the **PPPoE** item of the **Network** submenu to bring up the following page.



If your network access uses PPPoE (Point-to-Point Protocol over Ethernet), select this option by checking the **Yes** item. Fill in the required data in the **User Name** and **Password** fields, which are supplied by your ISP. The IP Address is usually allocated automatically.

DDNS

Click the **DDNS** item of the **Network** submenu to bring up the following page.



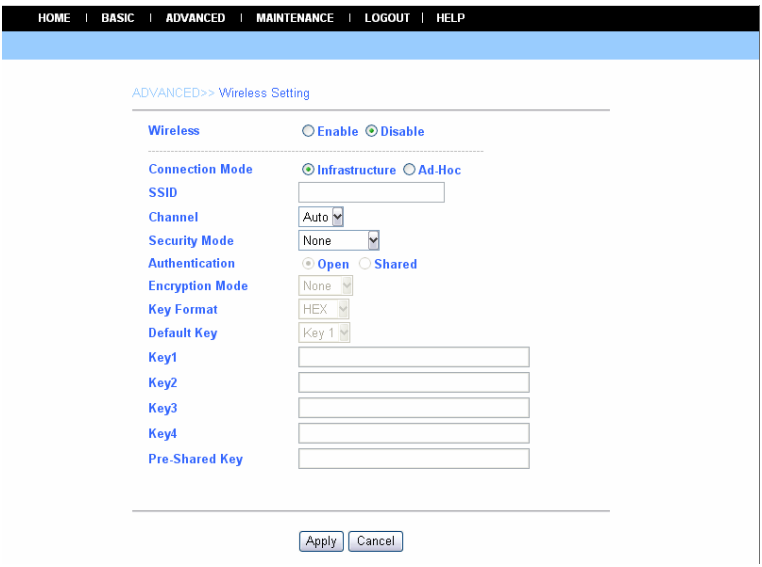
The camera supports Dynamic DNS (DDNS) feature, which allows you to assign a fixed host and domain name to a dynamic Internet IP address. Select **Yes** to enable this function, and then fill in the required data in the **User Name**, **Password** and **Domain Name** fields. Please note that you have to sign up for DDNS service with service providers before using this function.

Advanced → Wireless (for wireless model)

If you use a wireless camera, you can configure the respective settings in the **Wireless** submenu, which contains two options: **Setting** and **Site Survey**.

Setting

Click the **Setting** item of the **Wireless** submenu to bring up the following page.

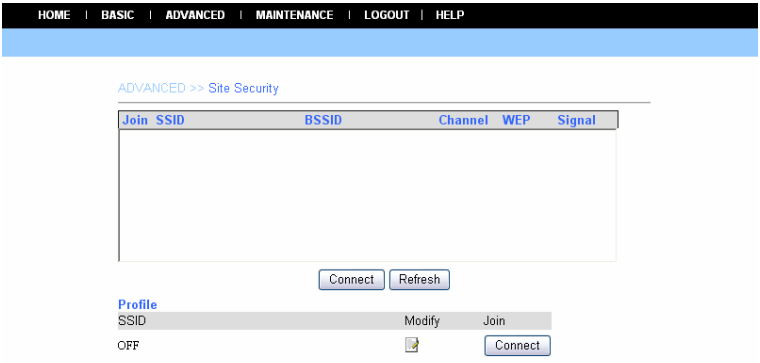


- **Wireless:** The default setting is **Disable.** Select **Enable**/ **Disable** to start/stop the wireless function of the camera.

- **Connection Mode:** Use this option to determine the type of wireless communication for the camera. There are two choices: **Infrastructure** mode and **Ad-Hoc** mode.
- **SSID:** SSID (Service Set Identity) is the name assigned to the wireless network. It will auto-detect and display the SSID of wireless network connected in this box. This default setting will let the camera connect to ANY access point under the infrastructure network mode.
- **Channel:** This pull-down menu provides the wireless channel for communication. Select the appropriate channel from the list provided depending on the regulatory region where the unit is sold.
- **Security Mode:** Wireless network communications can be intercepted easily. This option will help you protect your wireless network.
- **Authentication: Open** communicates the key across the network. **Shared** allows communication only with other devices with identical WEP settings.
- **Encryption Mode:** This option allows you to configure the setting of data encryption. The WEP key must be set before the data encryption is enforced.
- **Key Format:** To enable WEP Encryption, you should decide the encryption format first by selecting the **ASCII** or **HEX** option, and then input the WEP key (in the following **Key 1~4** box).
- **Pre-Shared Key:** This is used to identify each other in the network. If encryption is enabled on the router or access point in the network. You must enter the same encryption key in the **Pre-Shared Key** box to access the device in camera.

Site Survey

Click the **Site Survey** item of the **Wireless** submenu to bring up the following page.



This field displays the available networks. To connect one wireless network, scroll up and down in the list and highlight the desired network, and click the *Connect* button.

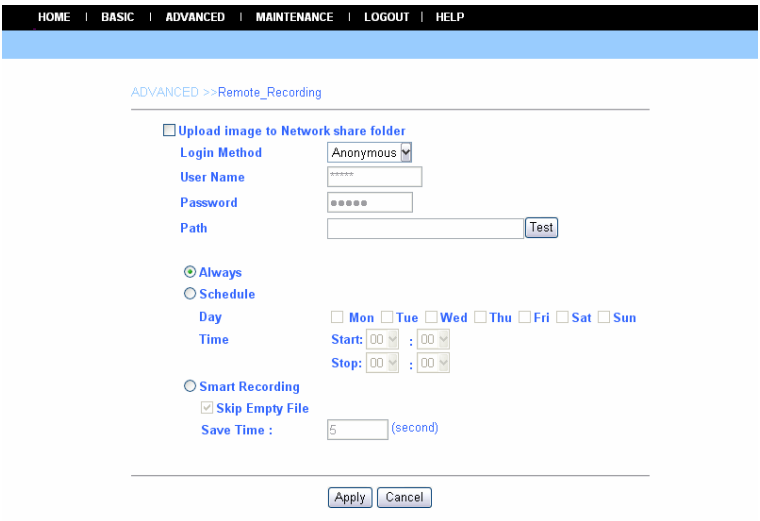
You can click *Refresh* to re-search the available networks.

Advanced → Tools

The **Tools** submenu contains three options: **Recording**, **Port** and **Mail**.

Recording

Click the **Recording** item of the **Tools** submenu to bring up the following page, which allows you to setup the record function of the camera.



- **Upload image to Network share folder:** Enable this function by checking the item, and then configure the following settings in this field.

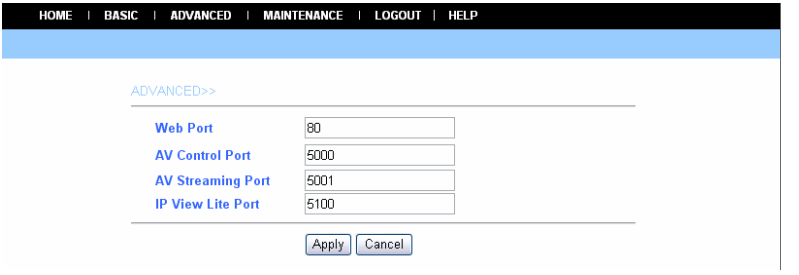
- **Login Method:** If the network share folder allows you to login using **Anonymous**, you will be able to upload the images without enter the User Name and Password. If not, you have to use the correct settings to enter the folder.
- **User Name:** Enter the user name in this field.
- **Password:** Enter the user password in this field.
- **Path:** Enter an existing folder name in this field, and the images will be uploaded to the given folder. Example:\\192.168.5.2\SHARE
  (Share PC IP:192.168.5.2;share folder named is SHARE)

Then, you can select the upload mode from the following three modes: **Always**, **Schedule**, and **Smart Recording**.

- **Always:** The recorded images will be always uploaded to the network share folder.
- **Schedule:** You can manage the uploading task by configuring the **Day** and **Time** options
- **Smart Recording:** Allows you to upload the recorded image only, and skip the empty files. To select this mode, you have to enable and configure the **Motion Detection** option first (see *page 33*).

Port

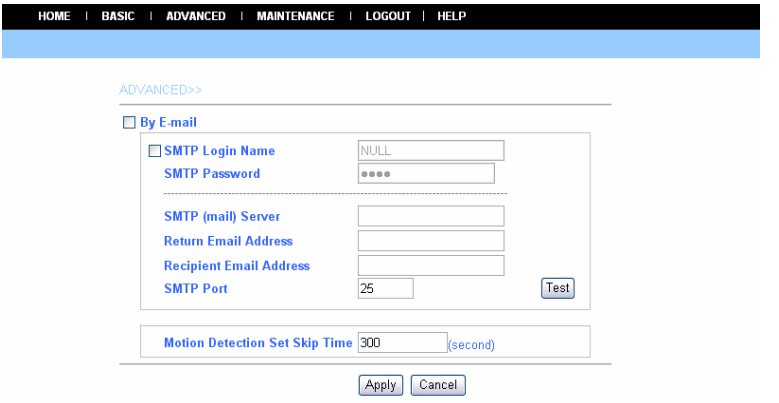
Click the **Port** item of the **Tools** submenu to bring up the following page, which allows you to setup the ports used to transmit the camera's data.



- **Web Port:** Setup the Web port to transmit the camera's image data. The default setting is port ***80***.
- **AV Control Port:** Setup the transmission of streaming data within the network. The default setting is port ***5000***.
- **AV Streaming Port:** The default setting is port ***5001***.
- **IP View Lite Port:** The default setting is port ***5100***.

Mail

Click the **Mail** item of the **Tools** submenu to bring up the following page, which allows you to setup e-mail function of the camera.



- **By E-mail:** Enable sending image through e-mail by checking this option, and configure the following settings. This field contains the six basic settings for your e-mail server.
  - **SMTP Login Name:** Enter the user name in this field to login receiver's e-mail server.
  - **SMTP Password:** Enter the user password in this field to login receiver's e-mail server.
  - **SMTP (mail) Server:** SMTP (Simple Mail Transfer Protocol) is a protocol for sending e-mail messages between servers you need to input the mail server address in this field.

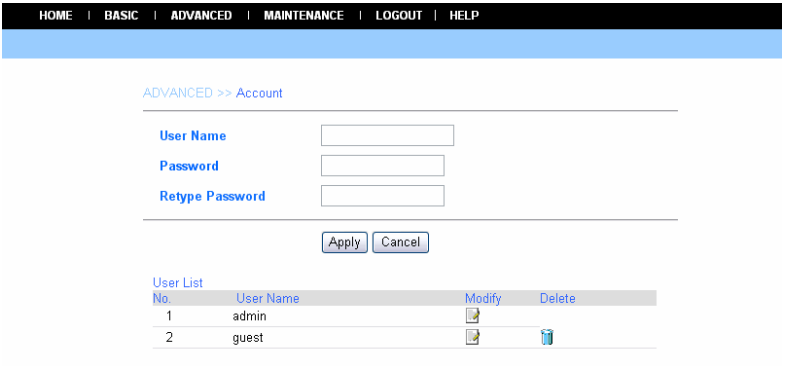
- **Return Email Address:** Enter the e-mail address of the user who will send the e-mail.
- **Recipient Email Address:** Enter the e-mail address of the user who will receive the e-mail.
- **SMPT Port:** Enter the e-mail port used in your computer. The default setting is port ***25***.

- **Motion Detection Set Skip Time:** You can setup the duration of motion detecting.

NOTE: You can click the **Test** *button to test the e-mail account you provided. To test, you have to enable and configure the* **Motion Detection** *option first (see page 33).*

Advanced → Account

The **Account** submenu contains the options that allow you to add/delete users. Also, you can manage the users of the camera.



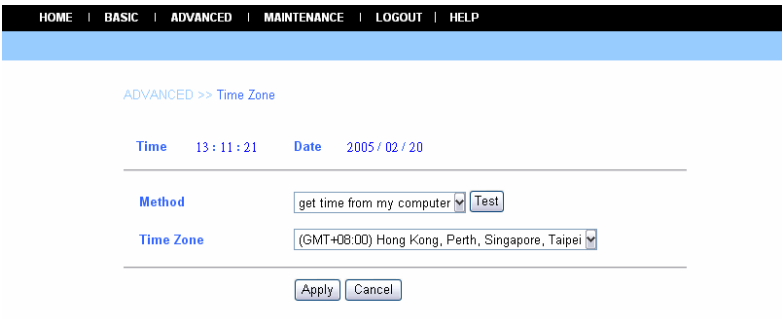
- **User Name:** Enter the user name in this field.
- **Password:** Enter the user password in this field.
- **Retype Password:** Enter the user password again to confirm the password.

When completed, click *Apply* to activate the user's account.

The following User List displays the existing users of the camera. You can modify and delete a user by click the respective icon.

Advanced → Timezone

The **Timezone** submenu displays the current time setting of the camera. For system management purpose, a correct time setting is critical to have accurate time stamps on the system logs.


HOME | BASIC | ADVANCED | MAINTENANCE | LOGOUT | HELP
ADVANCED >> Time Zone
Time 13 : 11 : 21
Date 2005 / 02 / 20
Method
get time from my computer
Test
Time Zone
(GMT+08:00) Hong Kong, Perth, Singapore, Taipei
Apply
Cancel

- **Method:** Allow you to setup the correct time by getting time from the computer or time server (need an Internet connection).
- **Time Zone:** Select a time zone according to your location.

Maintenance

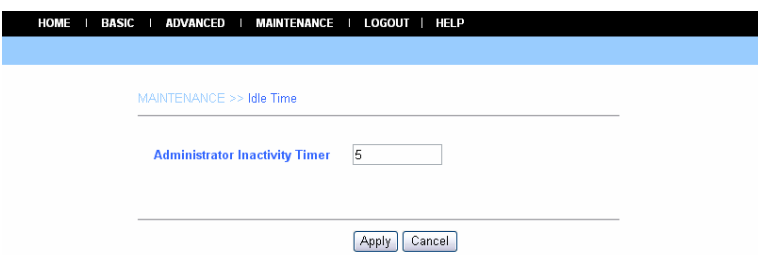
Move your mouse onto the **Maintenance** button, and it will automatically pop up a submenu bar containing two submenus: **Configuration** and **Firmware Upload**.

Maintenance → Configuration

The **Configuration** submenu contains four options: **Idle Time**, **Reset Default**, **Reboot** and **Status**.

Idle Time

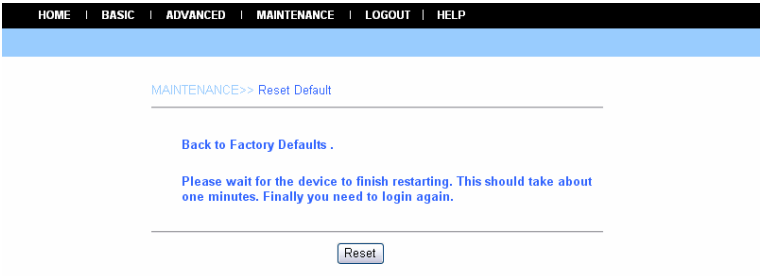
Click the **Idle Time** item of the **Configuration** submenu to bring up the following page, which allows you to setup the idle time of the camera.



- **Administrator Inactivity Timer:** location. If the user does nothing within the specified time in this option, the system would automatically logout. The idle time must be larger than ***0***.

Reset Default

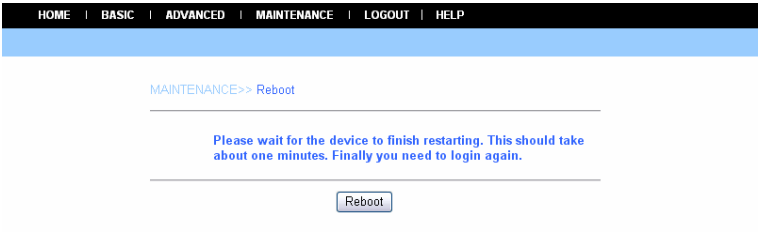
Click the **Reset Default** item of the **Configuration** submenu to bring up the following page, which allows you to load the default settings of the camera.


HOME | BASIC | ADVANCED | MAINTENANCE | LOGOUT | HELP
MAINTENANCE>> Reset Default
Back to Factory Defaults .
Please wait for the device to finish restarting. This should take about one minutes. Finally you need to login again.
Reset

Clicking *Reset* allows you to resume the factory default settings of the camera. This function is the same as pressing the **Reset** button on the camera.

Reboot

Click the **Reboot** item of the **Configuration** submenu to bring up the following page, which allows you to restart the camera.

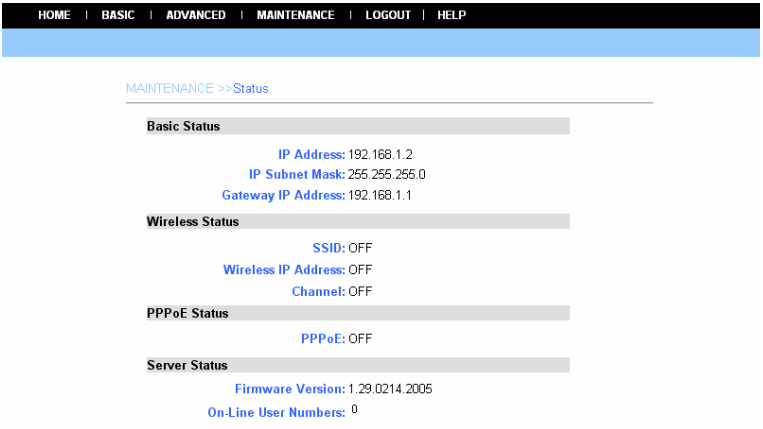

HOME | BASIC | ADVANCED | MAINTENANCE | LOGOUT | HELP
MAINTENANCE>> Reboot
Please wait for the device to finish restarting. This should take about one minutes. Finally you need to login again.
Reboot

Click *Reboot* to restart the camera.

After reboot, both the Power LED and Link LED on the front panel will light on, and then you can enter your Name and Password to login.

Status

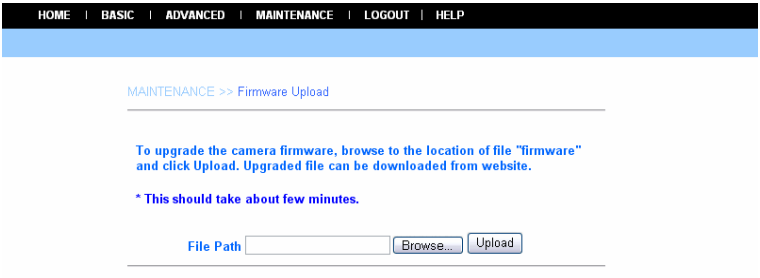
Click the **Status** item of the **Configuration** submenu to bring up the following page, which displays the current configuration of the camera.



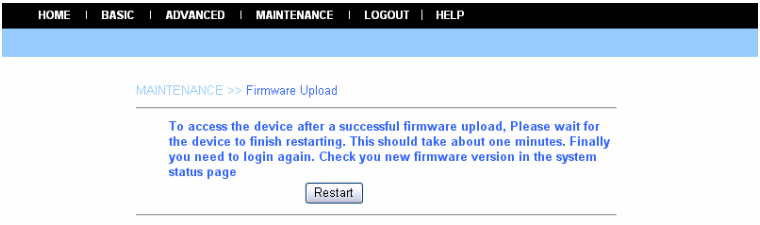
The **Status** option contains information of the camera, including its basic status and the networking status.

Maintenance → Firmware Upload

The **Firmware Upload** submenu allows you to update the firmware of the camera once you obtained a latest version of firmware.


HOME | BASIC | ADVANCED | MAINTENANCE | LOGOUT | HELP
MAINTENANCE >> Firmware Upload
To upgrade the camera firmware, browse to the location of file "firmware" and click Upload. Upgraded file can be downloaded from website.
* This should take about few minutes.
File Path
Browse...
Upload

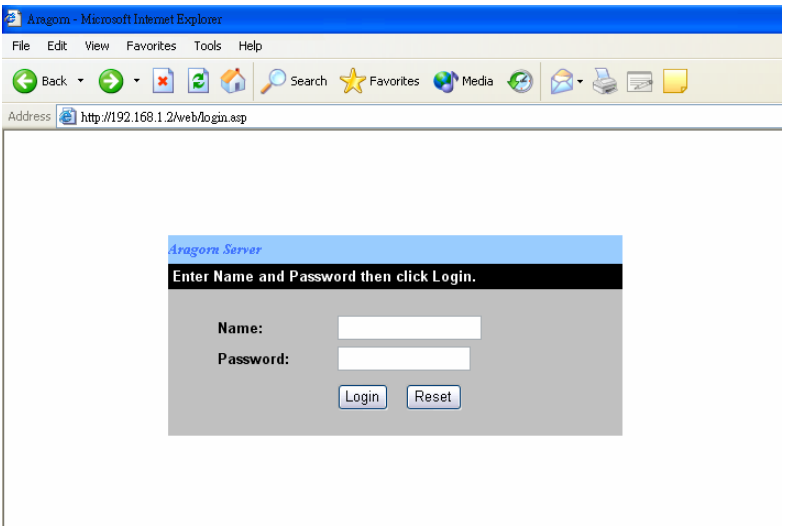
Click *Browse* to point to the firmware file saved in your computer, and then click *Upload*. The system start to upgrade the firmware, and it will ask you to restart the camera. Click *Restart* when prompted.


HOME | BASIC | ADVANCED | MAINTENANCE | LOGOUT | HELP
MAINTENANCE >> Firmware Upload
To access the device after a successful firmware upload, Please wait for the device to finish restarting. This should take about one minutes. Finally you need to login again. Check you new firmware version in the system status page
Restart

NOTE: It will take a few minutes to upgrade firmware. Please wait to complete the procedure; you can then reboot the camera.

Logout

Click the **LOGOUT** button to exit the Web Configuration Utility, and it will return to the login screen of the utility.



Help

Click the **HELP** button to bring up a window, providing you with the general help information to control the camera.

6

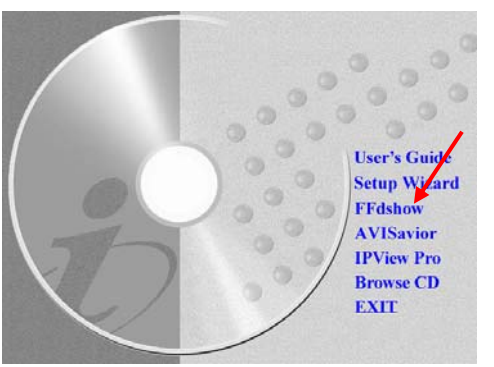
FFDSHOW & AVISAVIOR

This chapter describes **FFdshow** and **AVISavior**, which are provided in the Installation CD. FFdshow allows you to play the recorded video files on your computer. AVISavior allows you to fix the damaged recorded video files.

Installing FFdshow

Step 1

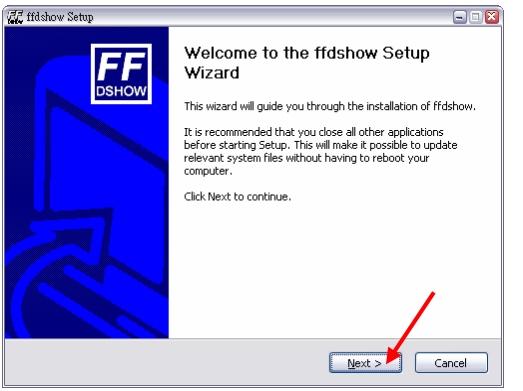
Insert the CD-ROM into the CD-ROM drive to initiate the auto-run program. The menu screen will appear as below:



Step 2

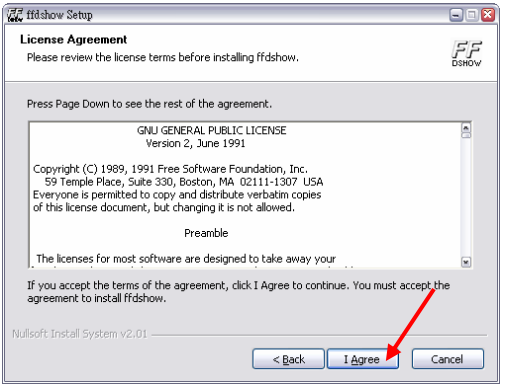
Click the **FFdshow Install** item, and select the desired language in the pop-up dialog window.

Then, the InstallShield Wizard will appear, click *Next* in the welcome screen.


ffdshow Setup
Welcome to the ffdshow Setup Wizard
This wizard will guide you through the installation of ffdshow.
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
Click Next to continue.
Next >
Cancel

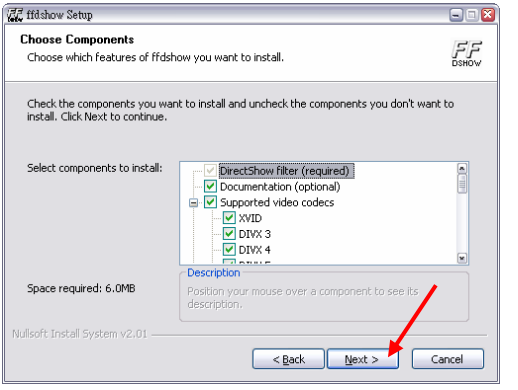
Step 3

Read and accept the License Agreement; then, click *I Agree*.


ffdshow Setup
License Agreement
Please review the license terms before installing ffdshow.
Press Page Down to see the rest of the agreement.
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991
Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
Preamble
The licenses for most software are designed to take away your
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install ffdshow.
Nullsoft Install System v2.01
< Back
I Agree
Cancel

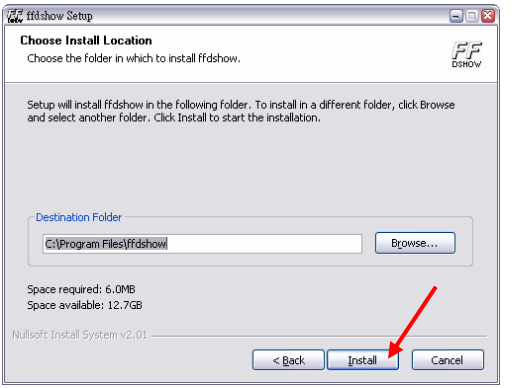
Step 4

Choose the components to be installed. If no specific requirement, leave the default setting and click *Next*.


ffdshow Setup
Choose Components
Choose which features of ffdshow you want to install.
Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.
Select components to install:
DirectShow filter (required)
Documentation (optional)
Supported video codecs
XVID
DIVX 3
DIVX 4
Description
Position your mouse over a component to see its description.
Space required: 6.0MB
Nullsoft Install System v2.01
< Back
Next >
Cancel

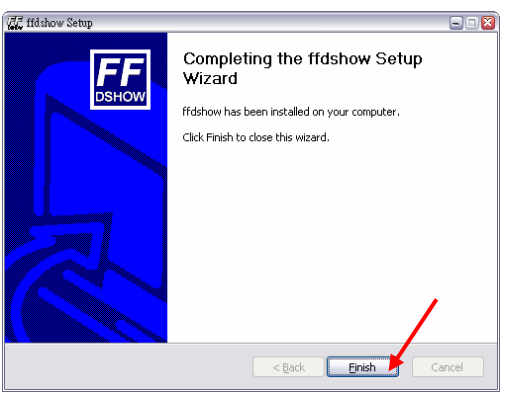
Step 5

Choose the destination location. If no specific requirement, leave the default setting and click ***Install***.


ffdshow Setup
Choose Install Location
Choose the folder in which to install ffdshow.
Setup will install ffdshow in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.
Destination Folder
C:\Program Files\ffdshow
Browse...
Space required: 6.0MB
Space available: 12.7GB
Nullsoft Install System v2.01
< Back
Install
Cancel

Step 6

The InstallShield Wizard starts to install the software, and the progress bar indicates the installation is proceeding. When completed, click ***Next***. Then, click ***Finish***.

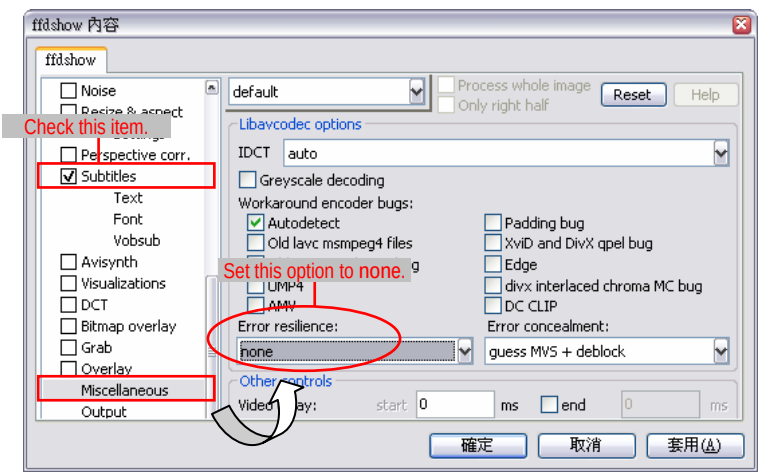


Configuration of FFdshow

Before playing the recorded video file, you have to change the following settings in FFdshow:

- Enable the **Subtitles** function.
- Set the **Error resilience** option to **none**.

1. Click **Start** > **Programs** > **ffdshow** > **Configuration** to open the **ffdshow properties** window.
2. Select to check the **Subtitles** item.
3. Select the Miscellaneous item, and then set the **Error resilience** option to **none**.



Playing the Video

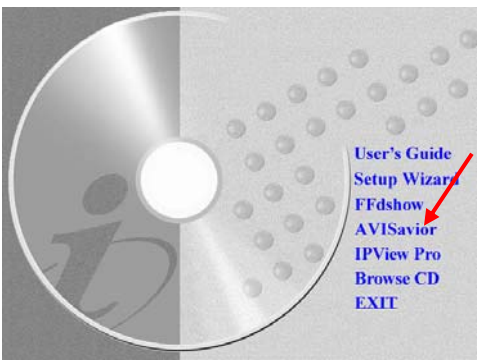
Since you have recorded video files from the camera, you can play the video files simply using Windows Media Player in your computer.

1. Find the video file saved in the computer.
2. Double-click the file, and it will open Windows Media Player (as default in Microsoft Windows) to play the video file.

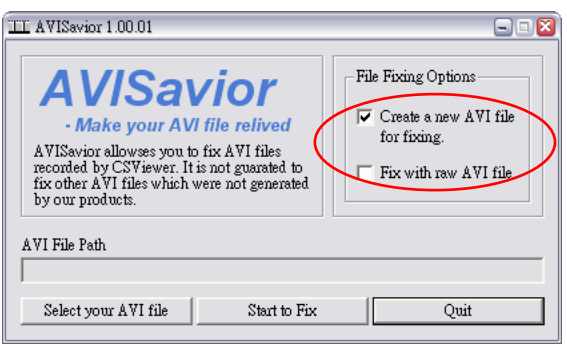
NOTE: By default, the destination folder to save the recorded video files is :\Program\IPView Pro\, and the file will be named as xxxxxxxx_yyyyyy.avi (where x is date and y is time). Also, it will automatically create a subtitle file named as xxxxxxxx_yyyyyy.sub (the same date/time settings with the corresponded .avi file). The destination folder can be changed in the Recording Configure option of IPView Pro (see page 75).

Fixing the Video File

If, unfortunately, the recorded video restored in your computer is damaged, you can try to fix it using AVISavior. To launch the utility, insert the CD-ROM into the CD-ROM drive to initiate the auto-run program. The menu screen will appear as below:

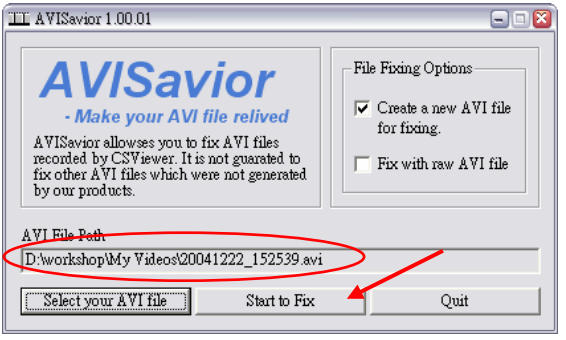


Click the **AVISavior** item, and the following window will appear on the screen.


AVISavior 1.00.01
AVISavior
- Make your AVI file relived
AVISavior allowes you to fix AVI files recorded by CSViewer. It is not guarated to fix other AVI files which were not generated by our products.
File Fixing Options
Create a new AVI file for fixing.
Fix with raw AVI file
AVI File Path
Select your AVI file
Start to Fix
Quit

First, set up the File Fixing Options by checking the "**Create a new AVI file for fixing**" or "**Fix with raw AVI file**" item. Selecting the former one will create a new AVI file in the computer when fixed; selecting the latter one will overwrite the original file when fixed.

Then, select the AVI file that you want to fix. Click the **Select your AVI File** button to bring up a dialog window, which allows you to assign the AVI file to be fixed. When selected, the path of the AVI file will appear in the box, as shown below.


AVISavior 1.00.01
AVISavior
- Make your AVI file relived
AVISavior allowses you to fix AVI files recorded by CSViewer. It is not guarated to fix other AVI files which were not generated by our products.
File Fixing Options
Create a new AVI file for fixing.
Fix with raw AVI file
AVI File Path
D:\workshop\My Videos\20041222_152539.avi
Select your AVI file
Start to Fix
Quit

Click the **Start to Fix** button to start fixing.

7

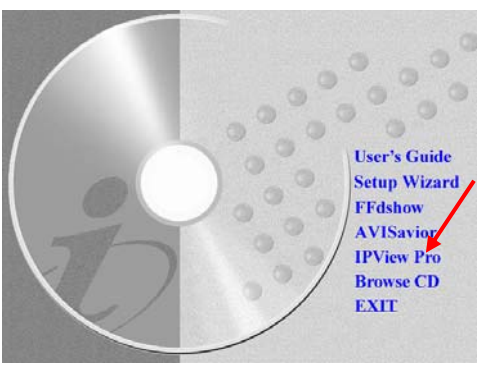
IPVIEW PRO

This chapter describes IPView Pro, which is a powerful software application designed with a user-friendly interface for ease of control and navigation requirements.

Installation

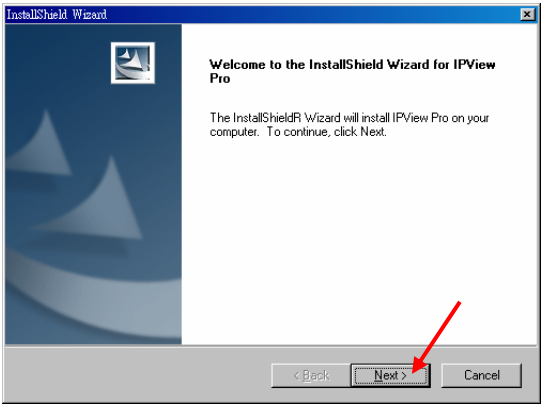
Step 1

Insert the CD-ROM into the CD-ROM drive to initiate the auto-run program. The menu screen will appear as below:



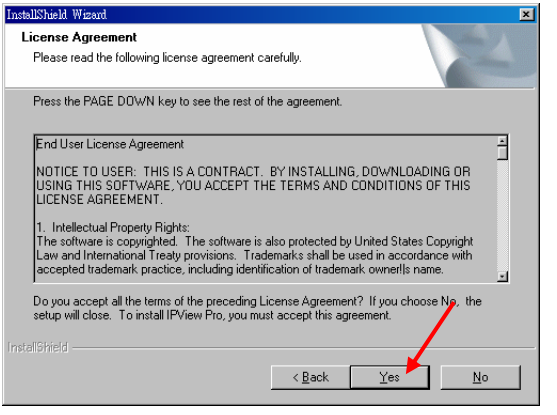
Step 2

Click the **IPView Pro** item to activate the InstallShield Wizard. Click *Next* in the welcome screen.


InstallShield Wizard
Welcome to the InstallShield Wizard for IPView Pro
The InstallShield® Wizard will install IPView Pro on your computer. To continue, click Next.
< Back
Next >
Cancel

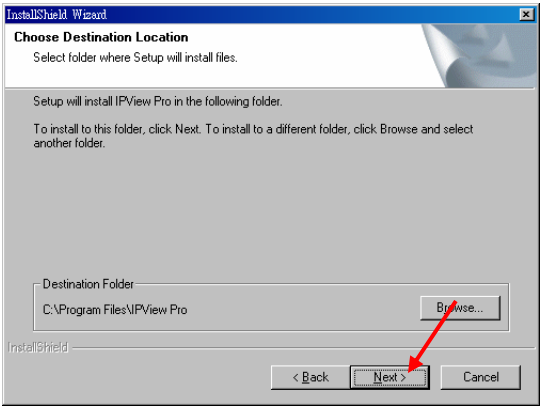
Step 3

Read and accept the License Agreement; then, click *Yes*.


InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
Press the PAGE DOWN key to see the rest of the agreement.
End User License Agreement
NOTICE TO USER: THIS IS A CONTRACT. BY INSTALLING, DOWNLOADING OR USING THIS SOFTWARE, YOU ACCEPT THE TERMS AND CONDITIONS OF THIS LICENSE AGREEMENT.
1. Intellectual Property Rights:
The software is copyrighted. The software is also protected by United States Copyright Law and International Treaty provisions. Trademarks shall be used in accordance with accepted trademark practice, including identification of trademark owner's name.
Do you accept all the terms of the preceding License Agreement? If you choose No, the setup will close. To install IPView Pro, you must accept this agreement.
InstallShield
< Back
Yes
No

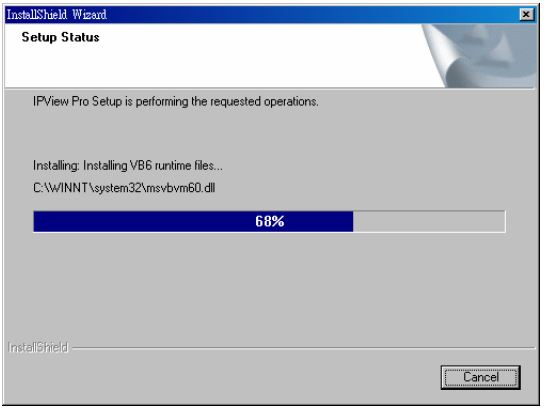
Step 4

Choose the destination location. If no specific requirement, leave the default setting and click ***Next***.


InstallShield Wizard
Choose Destination Location
Select folder where Setup will install files.
Setup will install IPView Pro in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files\IPView Pro
Browse...
InstallShield
< Back
Next >
Cancel

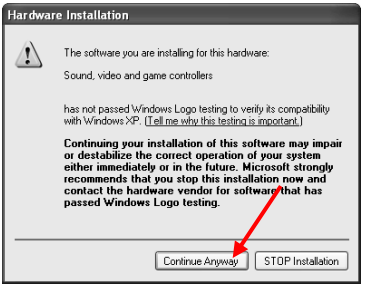
Step 5

The InstallShield Wizard starts to install the software, and the progress bar indicates the installation is proceeding.

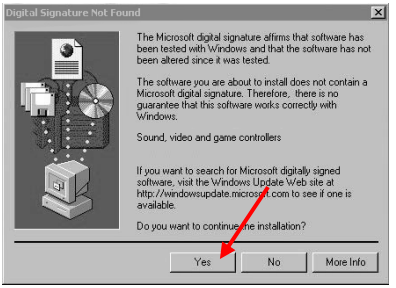


Step 6

If you use Windows® 2000/XP, it will appear a Digital Signature warning screen. Click *Continue Anyway* (Windows® XP) or *Yes* (Windows® 2000).


Hardware Installation
The software you are installing for this hardware:
Sound, video and game controllers
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

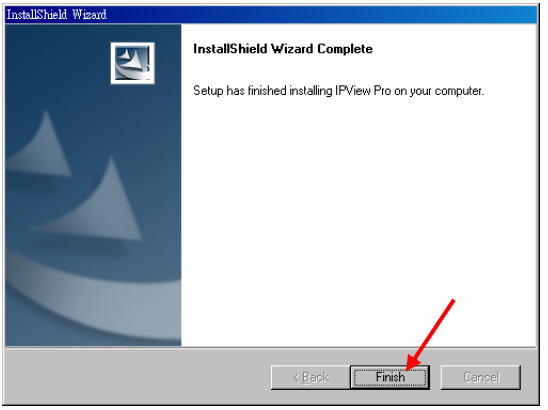
Windows® XP


Digital Signature Not Found
The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.
The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.
Sound, video and game controllers
If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.
Do you want to continue the installation?
Yes
No
More Info

Windows® 2000

Step 7

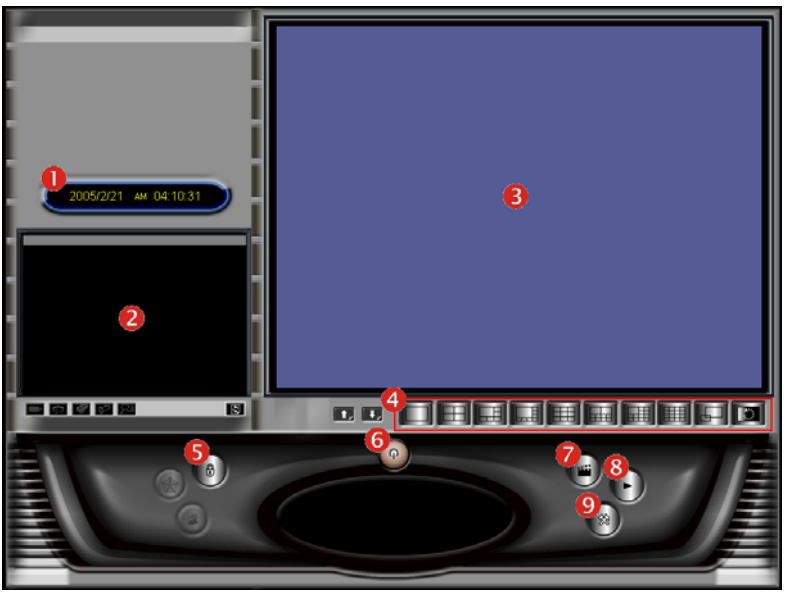
Click *Finish* to complete the installation.



Getting Started

This section describes the User Interface of IPView Pro, with detailed procedures for using the application.

To launch IPView Pro, click **Start** > **Programs** > **IPView Pro** > **IPView Pro**. The main screen will appear as below:



NOTE: IPView Pro requires the system's resolution setting up to 1024x768. Please configure the resolution to 1024x768 or higher; otherwise, it may shows incomplete screen when launching the program.

Item Feature

NO.	Item	Description
❶	Date/Time	Show current date/time.
❷	Status Mode Window	Show the camera's status in this window. Click the **Change Status Mode** button ( ) on the right lower corner of the window to change the display mode: Camera list mode Camera information mode
❸	View Window	Show the camera's view in this window.
❹	View Mode Buttons	Select the view mode from these buttons. Show one camera in View Window. Show four cameras in View Window. Show six cameras in View Window with the first one as the major view. Show eight cameras in View Window with the first one as the major view. Show nine cameras in View Window. Show ten cameras in View Window with the first two as the major views. Show thirteen cameras in View Window with the first one as the major view. Show sixteen cameras in View Window.

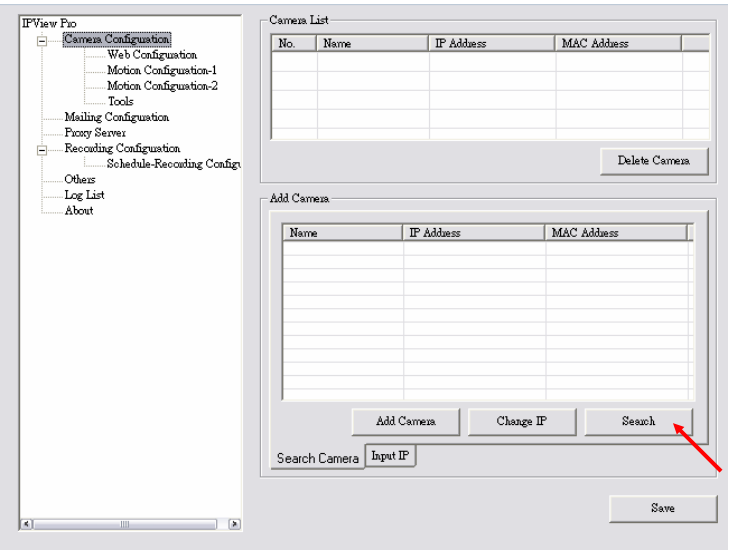
		Show the selected camera in full screen view. Enable displaying the video views in circles.
❺	Key Lock Button	Click to lock/unlock the camera. When locked, the user cannot operate any camera.
❻	Power Button	Click to exit or minimize IPView Pro.
❼	Record Button	Record video clip of the selected camera and save it in the computer. The storage position can be configured in System Configuration. When you click the button, you can select **Manual Record**, **Schedule Record**, or **Motion Record**.
❽	Play Button	Play the recorded video file in the computer.
❾	System Configure	Click to enter the System Configuration.

Using IPView Pro

Adding a Camera

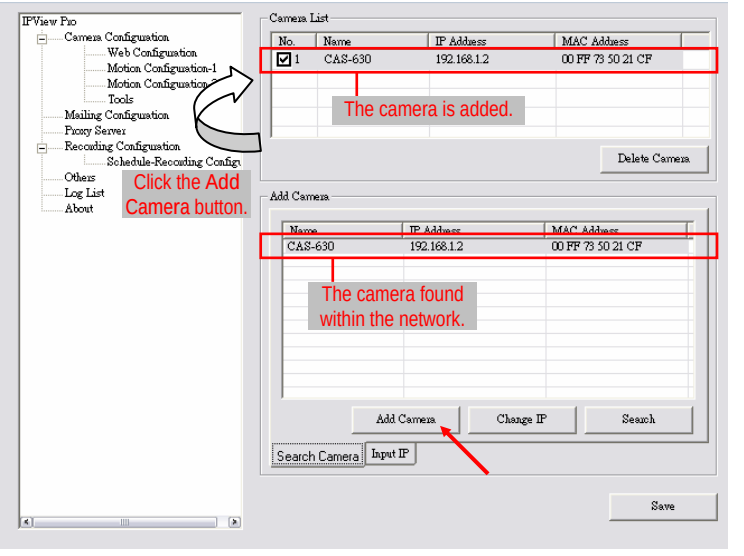
To add a camera:

1. Click the *System Configure* button to enter the System Configuration.



If you are not sure of the camera's IP address, you can click *Search* to search the available camera(s) within the network.

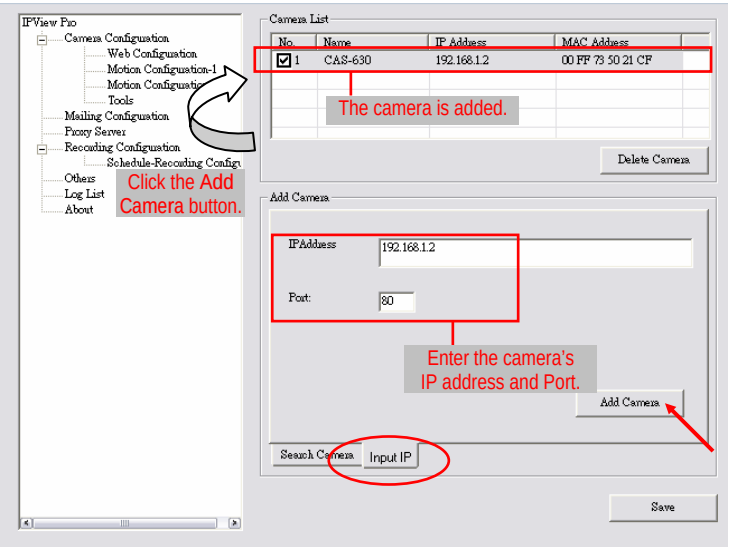
2. Select the camera you want by highlighting it, and then click *Add Camera*.



3. Click *Save*, and then click the **System Configure** button to return to View Window. The selected camera's video will be displayed now.

Alternately, you can add a camera by entering the its IP address directly:

4. Select the **Input IP** tab.



5. Enter the camera's IP address (default: 192.168.1.2) and Port (default: 80), and then click *Add Camera*.

6. Click *Save*, and then click the **System Configure** button to return to View Window. The selected camera's video will be displayed now.

Removing a Camera

To remove the camera from the list:

1. Select the camera you want to remove.
2. Click *Delete Camera*.

Viewing a Camera

From the View Modes of the panel, you can select one-camera mode or other modes to display your video. IPView Pro allows a maximum of 16 cameras for viewing.

For example, if you use only one camera, select one-camera mode ( ), and the View Window will display the view as *figure 1*.

If there are four cameras, select four-camera mode ( ), and the View Window will display the view as *figure 2*.

Figure 1.

Figure 2.

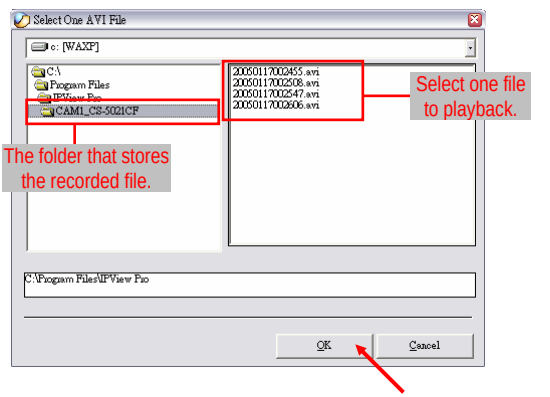
Recording Video

IPView Pro allows you to record the video clip and save it in your computer through the following methods: **Manual Record**, **Schedule Record**, and **Motion Record**.

When you click the *Record* button and select **Manual Record**, it will start recording. Click the button again to stop. If you select **Schedule Record** or **Motion Record**, the system will record the video clip according to the settings in System Configuration.

Playing Recorded Video

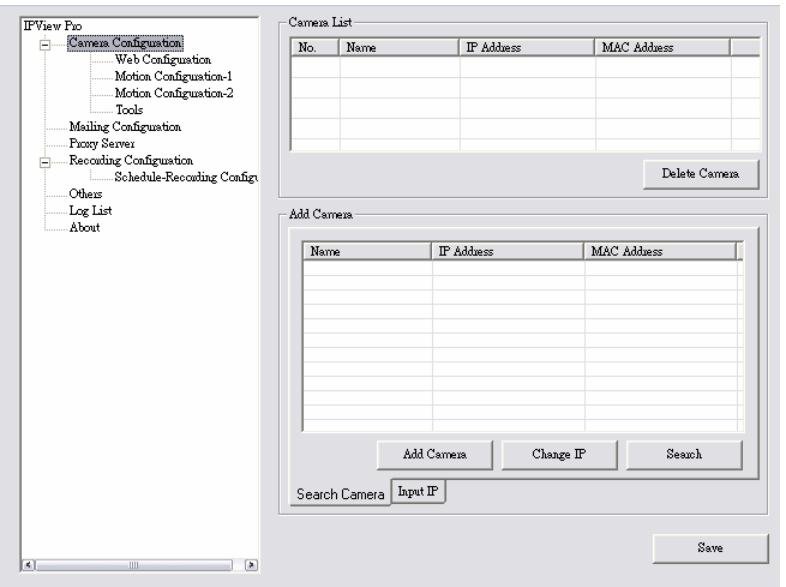
The recorded video clips are saved in your computer, and can be played using Windows Media Player. To start playback, simply click the *Play* button on the panel, and the following dialog screen will appear, allowing you to select the file to playback.



Select the recorded file in the computer, and then click *OK*.

Configuring the System

Clicking the *System Configure* button on the panel allows you to configure the system settings, and the **System Configuration Screen** will appear in the View Window as shown below. Once configured, click *Save* to save the settings, and then click the *System Configure* button again to exit configuration.



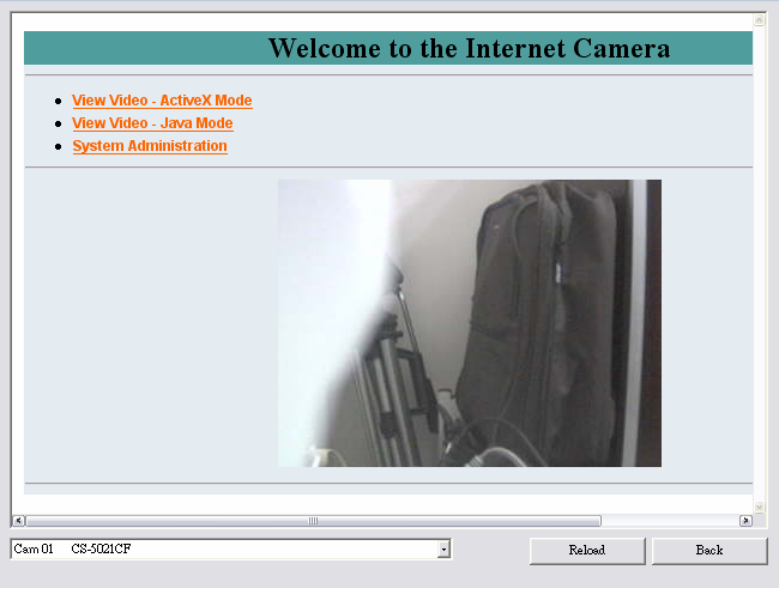
System Configuration Screen

Camera Configuration

In this field, you can add/delete the camera (as described in the previous section). Also, you can configure the following settings:

Web Configuration

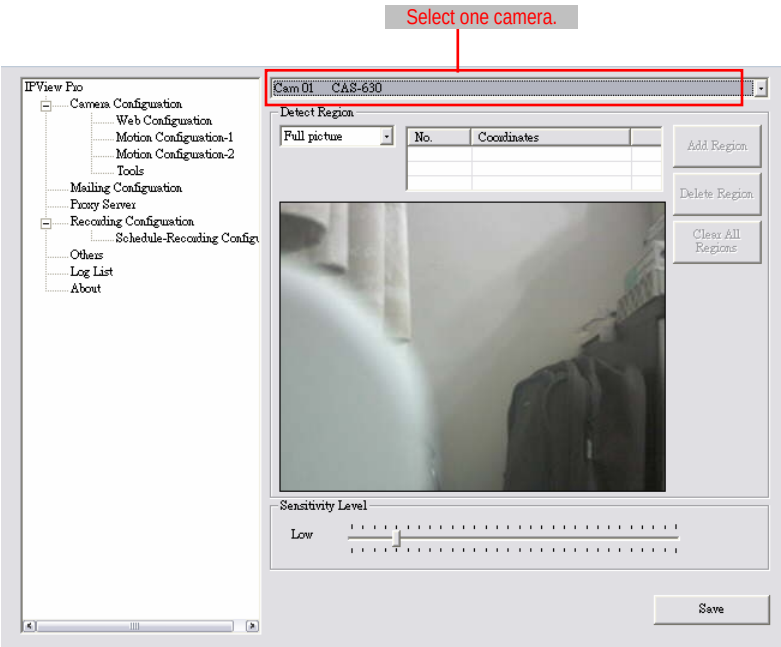
In the left column, selecting the **Web Configuration** item will launch the Web Configuration Utility in View Window.



You can configure these settings according to the description in ***Chapter 5, Using the Camera***. Click *Back* to exit the Web Configuration Utility.

Motion Configuration-1

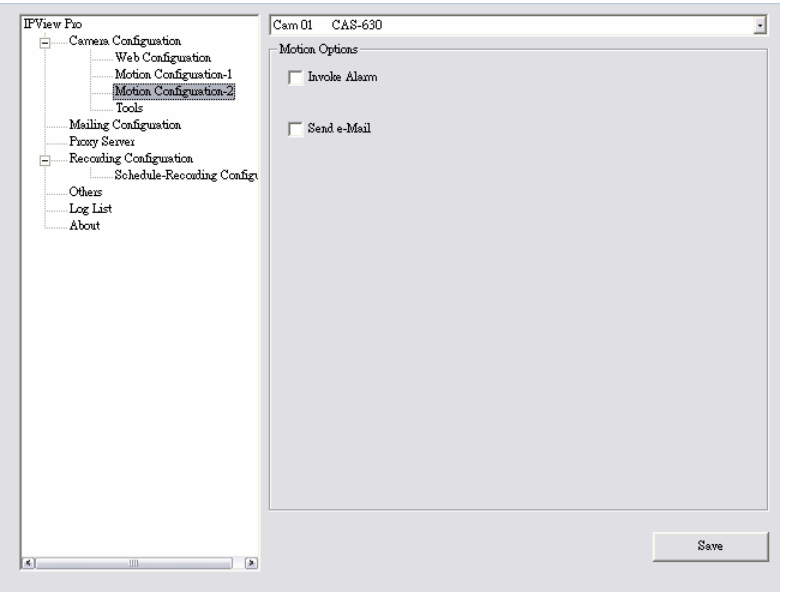
The **Motion Configuration-1** item provides the commands for motion detection control. Before configuring, you should select one camera from the pull-down menu.



- **Detect Region:** When you select the **Full picture** option, the camera will monitor the whole area.
- **Sensitivity Level:** Move the slide bar to adjust the sensitivity level for detecting motion to record video.

Motion Configuration-2

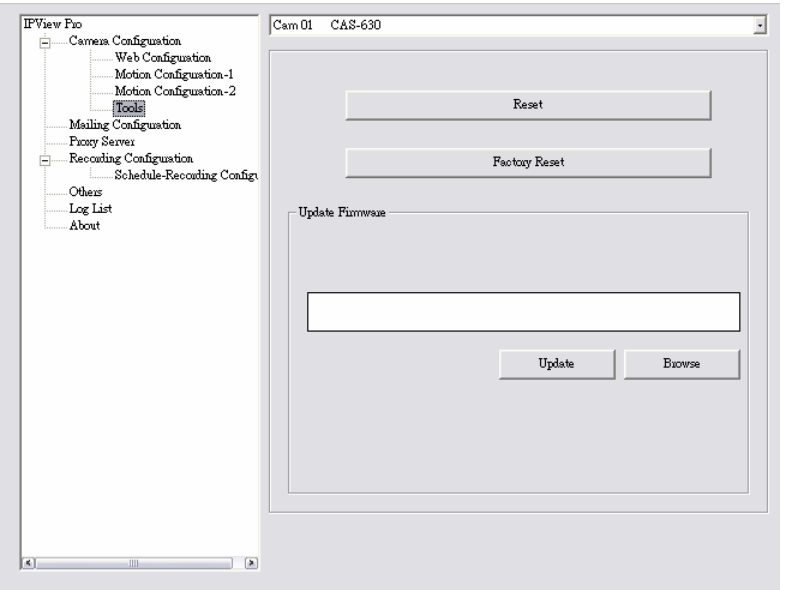
The **Motion Configuration-2** item allows you to configure to the alarm and e-mail setting.



- **Invoke Alarm:** Select this option to enable alarm when some motion detected by the system.
- **Send e-mail:** When this option is checked, click the **Mailing Configuration** in the left column to enter the required information (see the following section).

Tools

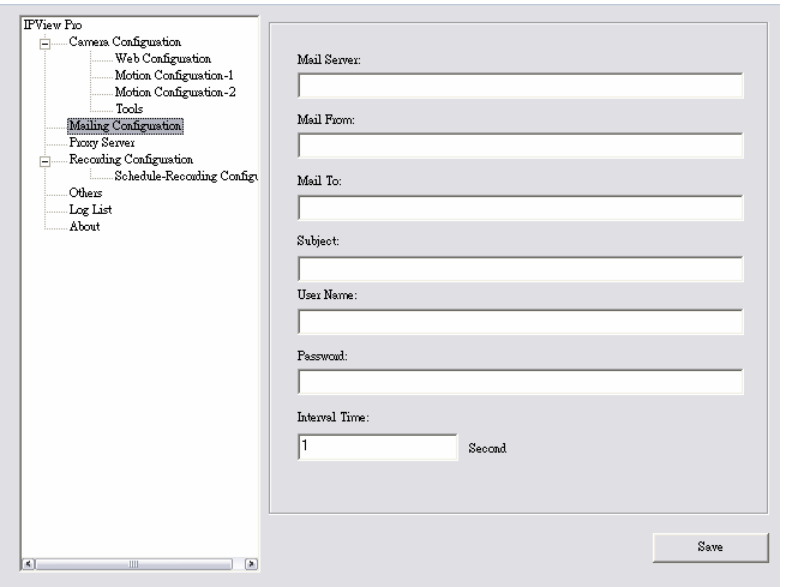
The **Tools** item allows you to configure to the alarm and e-mail setting.



- **Reset:** Restore the original setting of your camera. Do you really want to reset this device? Click *Yes* in the pop-up dialog box to confirm.
- **Factory Reset:** Restore the factory default settings of the camera. Do you really want to factory reset this device? Click *Yes* in the pop-up dialog box to confirm.
- **Update Firmware:** When new firmware is available, you can upgrade it using this option. Click *Browse* to find the firmware file, and then click *Update*.

Mailing Configuration

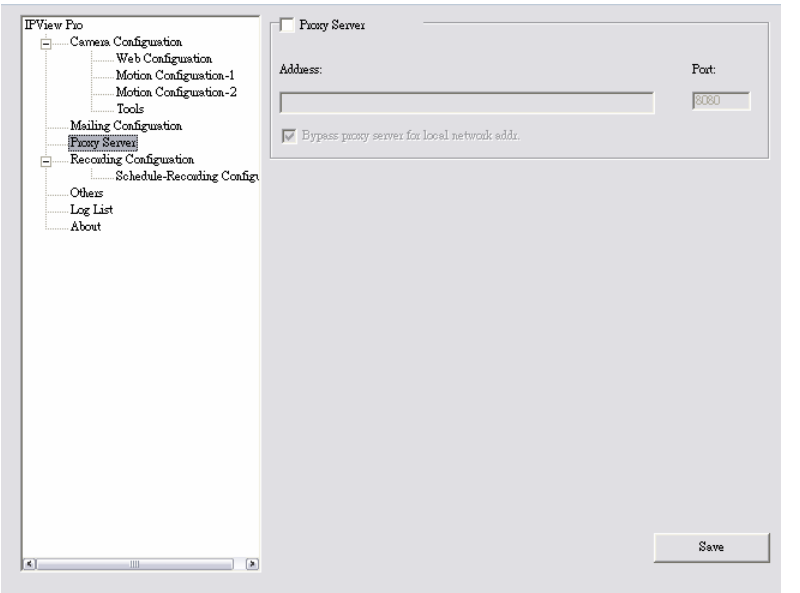
When Motion Detection function is enabled and the **Send e-mail** option is checked, you should enter the required information in the respective fields.



- **Mail Server:** Enter the mail server address that is used to send your e-mail.
- **Mail From/To:** Enter the sender's/receiver's e-mail address.
- **Subject:** Enter the title of the e-mail.
- **User Name/Password:** Enter the user name/password to login the mail server.
- **Interval Time:** Enter a number in this box to setup the time (in second) to send E-mail regularly.

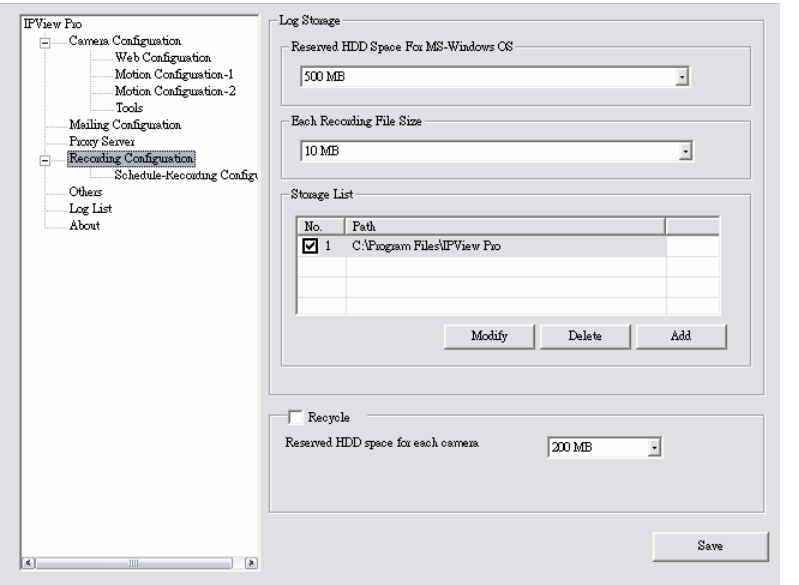
Proxy Server

Check the Proxy Server option and enter the required settings in the **Address** and **Port** boxes to enable and use the Proxy Server function.



Recording Configuration

In this field, you can configure the storage settings.



- **Log Storage:**
  - **Reserved HDD Space For MS-Windows OS –** You can reserve **500 MB** to **1000 MB** hard disk space for the program.
  - **Each Recording File Size –** If the recorded video files reach the file size limit, video images will be recorded into another file automatically. The available settings are from **10 MB** to **50 MB**.

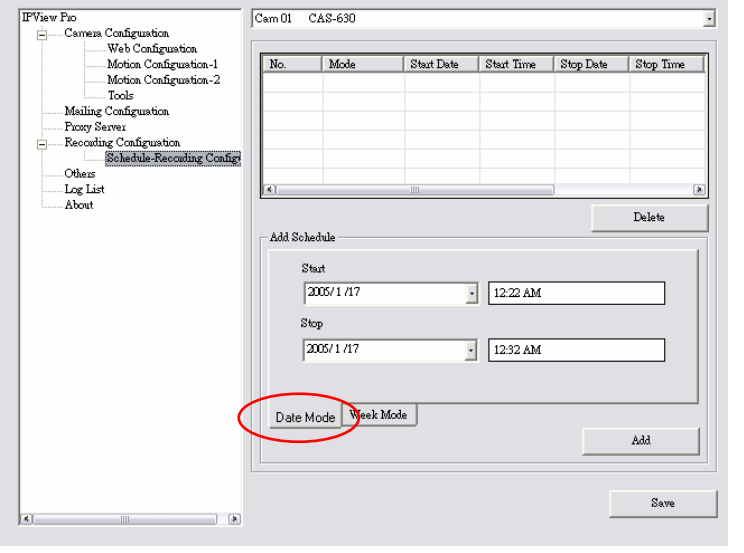
- **Storage List –** The destination folder to save the recorded video file can be specified here. Click ***Modify*** to change the current path setting; click ***Add*** to add a new destination folder; click ***Delete*** to remove a selected path setting. Please note that you are not allowed to delete a path setting if there is only one setting in the list.

- **Recycle:** You can check this option to clear the files when the unreserved space of your hard disk is filled. The available settings are from **200 MB** to **50000 MB**.

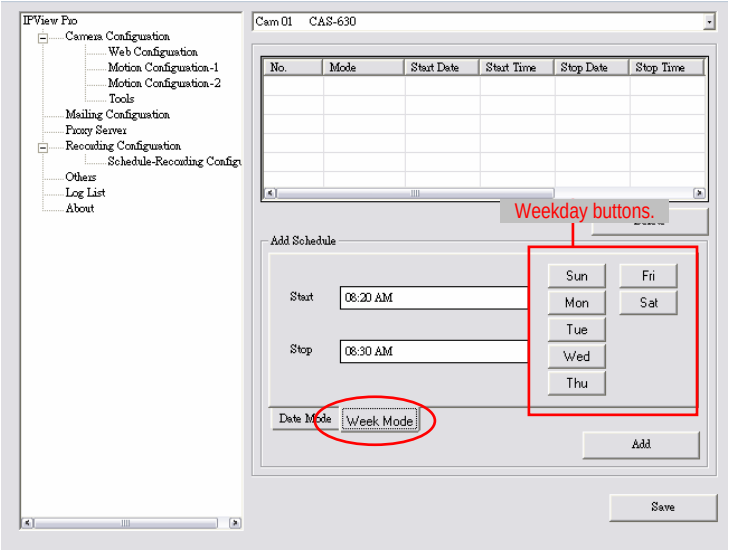
Schedule-Recording Configuration

This recording function will work after you have enabled respective settings in the Schedule mode. The recording schedule can be defined by **Date Mode** or **Week Mode**.

- **Date Mode:** First, select the camera desired from the pull-down menu. Then, setup the time in the **Start**/**Stop** fields. Click *Add* to add the recording schedule to the list. Click *Save* to save the settings.

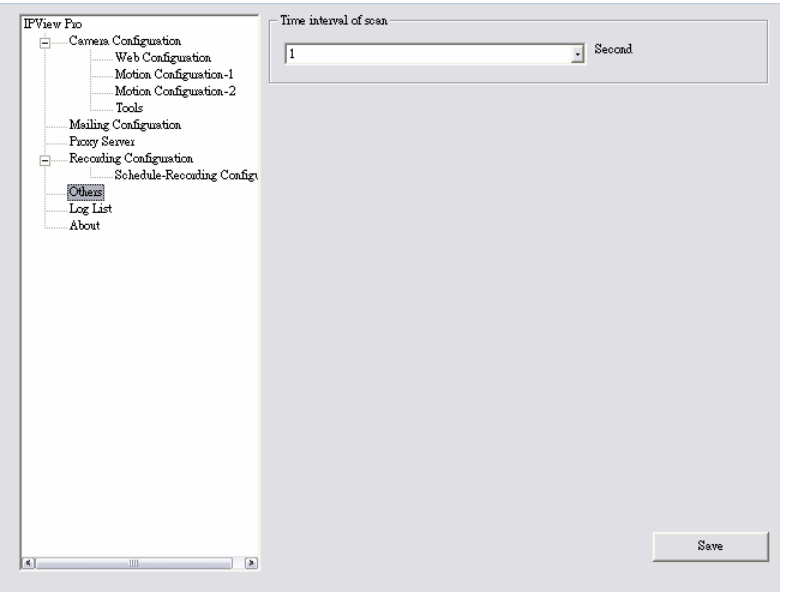


- **Week Mode:** First, select the camera desired from the pull-down menu. Then, setup the time in the **Start**/**Stop** fields, and select the weekday from the buttons. Click *Add* to add the recording schedule to the list. Click *Save* to save the settings.



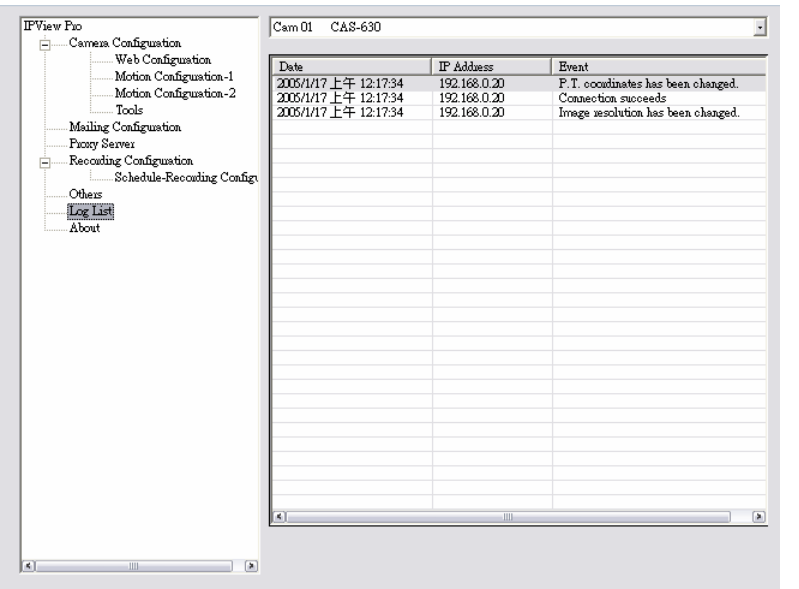
Others

When multiple cameras connected, this option allows the system to display these views as the main view in circles according to your time settings. The range of **Time interval of scan** is from **1** to **20** seconds.



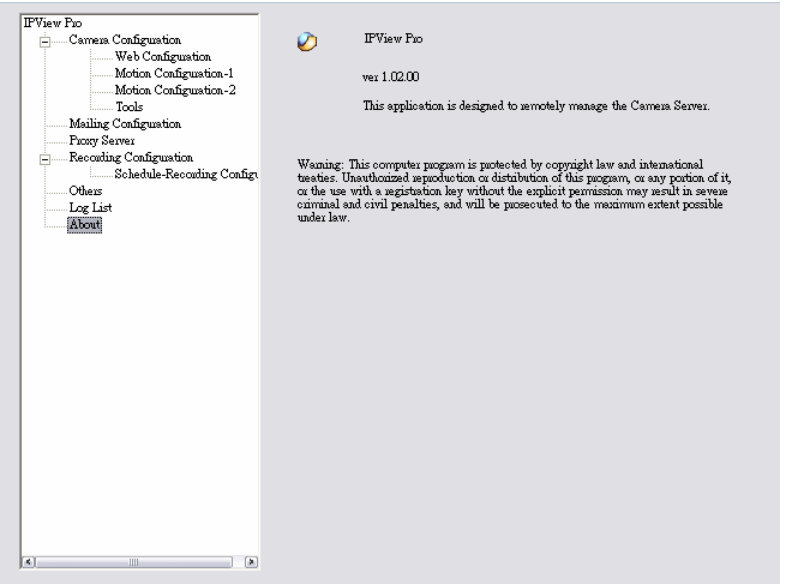
Log List

This filed displays the user(s) information, which include the Date, MAC address, and the brief description of events.



About

This filed provides information of the software application.


IPView Pro
Camera Configuration
Web Configuration
Motion Configuration-1
Motion Configuration-2
Tools
Mailing Configuration
Proxy Server
Recording Configuration
Schedule-Recording Config
Others
Log List
About
IPView Pro
ver 1.02.00
This application is designed to remotely manage the Camera Server.
Warning: This computer program is protected by copyright law and international treaties. Unauthorized reproduction or distribution of this program, or any portion of it, or the use with a registration key without the explicit permission may result in severe criminal and civil penalties, and will be prosecuted to the maximum extent possible under law.

8

APPENDIX

A. Frequently Asked Questions

Internet Camera Features

Q: What is an Internet Camera?
A: Internet camera is a standalone system connecting directly to an Ethernet or Fast Ethernet network and supported by the wireless transmission based on the IEEE 802.11g standard. It is different from the conventional PC camera, Internet camera is an all-in-one system with built-in CPU and web-based solutions providing a low cost solution that can transmit high quality video images for monitoring. The camera can be managed remotely, accessed and controlled from any PC/Notebook over the Intranet or Internet via a web browser.

Q: How many users are allowed to access this Internet camera simultaneously?
A: Maximum number of users that can log onto the camera at the same time is 10. Please keep in mind the overall performance of

the transmission speed will slow down when many users are logged on, it is because that all the users share the same resources.

Q: What algorithm is used to compress the digital image?
A: The camera utilizes the MPEG4 image compression technology providing high quality images for users. MPEG4 is adopted since it is a standard for image compression and can be applied to various web browsers and software applications.

Q: Can I change the wireless antenna attached to the camera?
A: The wireless antenna can be changed for a variety of reasons such as extending the wireless transmission range, however, please consult authorized distributors before attempting as the connectors must be SMA connector type.

Q: What is the wireless transmission range for the camera?
A: Generally the wireless distance can go up to 100 meters indoors and up to 300 meters outdoors. The range is limited by the number of walls, ceilings, or other objects that the wireless signals must pass through. Typical ranges vary depends on the types of materials and background Radio Frequency (RF) noise in your home or business and the configuration setting of your network environment.

Internet Camera Installation

Q: Can the Internet Camera be used out-doors?
A: The camera is not weatherproof. It needs to be equipped with a weatherproof case to be used outdoors and it is not recommended.

Q: What network cabling is required for the camera?
A: The camera uses Category 5 UTP cable with RJ-45 connector, which allows 10 Base-T and 100 Base networking.

Q: Can the camera be setup as a PC-cam on the computer?
A: No, the camera is an Internet Camera used only on Ethernet and Fast Ethernet network and supported by wireless transmission.

Q: Can the camera be connected on the network if it consists of only private IP addresses?
A: The camera can be connected to LAN with private IP addresses.

Q: Can the camera be installed and work if a firewall exists on the network?
A: If a firewall exists on the network, port 80 is open for ordinary data communication. However, since the camera transmits image data, the default ports 5000, 5001 and 5100 are also required. Therefore, it is necessary to open ports 5000, 5001 and 5100 of the network for remote users to access the camera.

B. PING Your IP Address

The PING (Packet Internet Groper) command can determine whether a specific IP address is accessible by sending a packet to the specific address and waiting for a reply. It can also provide a very useful tool to confirm if the IP address conflicts with the camera over the network.

Follow the step-by-step procedure below to utilize the PING command. However, you must disconnect the camera from the network first.

Start a DOS window.
Type ping x.x.x.x, where x.x.x.x is the IP address of the camera.

The succeeding replies as illustrated below will provide useful explanation to the cause of the problem with the camera IP address.

C. Trouble Shooting

Q: I cannot access the camera from a web browser.
A1: The possible cause might be the IP Address for the camera is already being used by another device. To correct the possible problem, you need to first disconnect the camera from the network. Then run the PING utility (follow the instructions in Appendix B - PING Your IP Address).

A2: Another possible reason is the IP Address is located on a different subnet. To fix the problem, run the PING utility (follow the instructions in Appendix B - PING Your IP Address). If the utility returns "no response" or similar, the finding is probably correct, then you should proceed as follows:

In Windows 95/98/2000 and Windows NT, double check the IP Address of the camera is within the same subnet as your workstation.

Click Start → Setting → Control Panel → Network. Then, select TCP/IP from the Network dialog box, and click "Specify an IP address" from the TCP/IP Properties dialog box. If the camera is situated on a different subnet than your workstation, you will not be able to set the IP address from this workstation. To verify make sure the first 3 sections of the IP address of the camera corresponds to the first 3 sections of the workstation. Therefore the IP address of the camera must be set from a workstation on the same subnet.

A3: Other possible problems might be due to the network cable. Try replacing your network cable. Test the network interface of

the product by connecting a local computer to the unit, utilizing a standard Crossover (hub to hub) Cable. If the problem is not solved the camera might be faulty.

Q: Why does the Power LED not light up constantly?
A: The power supply used might be at fault. Confirm that you are using the provided power supply DC 5V for the camera and verify that the power supply is well connected.

Q: Why does the Link LED not light up properly?
A1: There might be a problem with the network cable. To confirm that the cables are working, PING the address of a know device on the network. If the cabling is OK and your network is reachable, you should receive a reply similar to the following (…bytes = 32 time = 2 ms).

A2: The network device utilized by the camera is not functioning properly such as hubs or switches. Confirm the power for the devices are well connected and functioning.

A3: The wireless connection might be at fault. In ad-hoc mode make sure the camera wireless channel and SSID are set to match the PC/Notebook wireless channel and SSID for direct communication.

Under infrastructure mode make sure the SSID on the PC/Notebook and the camera must match with the access point's SSID.

Q: Why does the camera work locally but not externally?
A1: Might be caused from the firewall protection. Need to check the Internet firewall with your system administrator.

A2: The default router setting might be a possible reason. Need to double check if the configuration of the default router settings is required.

Q: Why does a series of broad vertical white line appears through out the image?
A: A likely issue is that the CMOS sensor becomes overloaded when the light source is too bright such as direct exposure to sunlight or halogen light. You need to reposition the camera into a more shaded area immediately as this will damage the CMOS sensor.

Q: There is bad focus on the camera, what should be done?
A1: The focus might not be correctly adjusted for the line of sight. You need to adjust the camera focus manually as described in Adjust Internet Camera Focus.

A2: There is no adaptor fitted with your C-type lens. If you have previously changed the supplied CS-type lens, you may have unintentionally installed a C-type lens without fitting the adaptor first.

Q: Noisy images occur how can I solve the problem?
A1: The video images might be noisy if the camera is used is a very low light environment. To solve this issue you need more lighting.

A2: There might be wireless transmission interference make sure there are no other wireless devices on the network that will affect the wireless transmission.

Q: There is poor image quality, how can I improve the image?
A1: A probable cause might be the incorrect display properties configuration for your desktop. You need to open the Display Properties on your desktop and configure your display to show at least 65'000 colors for example at least 16-bit.

NOTE: *Applying only 16 or 256 colors on your computer will produce dithering artifacts in the image.*

A2: The configuration on the camera image display is incorrect. Through the Web Configuration Image section you need to adjust the image related parameter for improve images such as brightness, contrast, hue and light frequency. Please refer to the Web Configuration section for detail information.

Q: There are no images available through the web browser?
A: The ActiveX might be disabled. If you are viewing the images from Internet Explorer make sure ActiveX has been enabled in the Internet Options menu. Alternatively, you can use the Java Applet for viewing the required images.

D. Time Zone Table

(GMT-12:00) Eniwetok, Kwajalein
(GMT-11:00) Midway Island, Samoa
(GMT-10:00) Hawaii
(GMT-09:00) Alaska
(GMT-08:00) Pacific Time (US & Canada); Tijuana
(GMT-07:00) Arizona
(GMT-07:00) Mountain Time (US & Canada)
(GMT-06:00) Central Time (US & Canada)
(GMT-06:00) Mexico City, Tegucigalpa
(GMT-06:00) Saskatchewan
(GMT-05:00) Bogota, Lima, Quito
(GMT-05:00) Eastern Time (US & Canada)
(GMT-05:00) Indiana (East)
(GMT-04:00) Atlantic Time (Canada)
(GMT-04:00) Caracas, La Paz

(GMT-04:00) Santiago
(GMT-03:30) Newfoundland
(GMT-03:00) Brasilia
(GMT-03:00) Buenos Aires, Georgetown
(GMT-02:00) Mid-Atlantic
(GMT-01:00) Azores, Cape Verde Is.
(GMT) Casablanca, Monrovia
(GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London
(GMT+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna
(GMT+01:00) Belgrade, Bratislava, Budapest, Ljubljana, Prague
(GMT+01:00) Brussels, Copenhagen, Madrid, Paris, Vilnius
(GMT+01:00) Sarajevo, Skopje, Sofija, Warsaw, Zagreb
(GMT+02:00) Athens, Istanbul, Minsk
(GMT+02:00) Bucharest
(GMT+02:00) Cairo

(GMT+02:00) Harare, Pretoria
(GMT+02:00) Helsinki, Riga, Tallinn
(GMT+02:00) Jerusalem
(GMT+03:00) Baghdad, Kuwait, Riyadh
(GMT+03:00) Moscow, St. Petersburg, Volgograd
(GMT+03:00) Nairobi
(GMT+03:30) Tehran
(GMT+04:00) Abu Dhabi, Muscat
(GMT+04:00) Baku, Tbilisi
(GMT+04:30) Kabul
(GMT+05:00) Ekaterinburg
(GMT+05:00) Islamabad, Karachi, Tashkent
(GMT+05:30) Bombay, Calcutta, Madras, New Delhi
(GMT+06:00) Astana, Almaty, Dhaka
(GMT+06:00) Colombo

(GMT+07:00) Bangkok, Hanoi, Jakarta
(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi
(GMT+08:00) Perth
(GMT+08:00) Singapore
(GMT+08:00) Taipei
(GMT+09:00) Osaka, Sapporo, Tokyo
(GMT+09:00) Seoul
(GMT+09:00) Yakutsk
(GMT+09:30) Adelaide
(GMT+09:30) Darwin
(GMT+10:00) Brisbane
(GMT+10:00) Canberra, Melbourne, Sydney
(GMT+10:00) Guam, Port Moresby
(GMT+10:00) Hobart
(GMT+10:00) Vladivostok

(GMT+08:00) Singapore
(GMT+08:00) Taipei
(GMT+09:00) Osaka, Sapporo, Tokyo
(GMT+09:00) Seoul
(GMT+09:00) Yakutsk
(GMT+09:30) Adelaide
(GMT+09:30) Darwin
(GMT+10:00) Brisbane
(GMT+10:00) Canberra, Melbourne, Sydney
(GMT+10:00) Guam, Port Moresby
(GMT+10:00) Hobart
(GMT+10:00) Vladivostok
(GMT+11:00) Magadan, Solomon Is., New Caledonia
(GMT+12:00) Auckland, Wellington
(GMT+12:00) Fiji, Kamchatka, Marshall Is.

E. Adjust Internet Camera Focus

To adjust the focus of the lens, you need to turn the lens slowly in either clockwise or anticlockwise direction until the desired image appears. DO NOT over turn the lens in either of the directions, as it will be out of focus.

NOTE: *You can further adjust the camera's image quality through System Administration – Image of Web Configuration. Please refer to Web Configuration section for further details.*

Warning

Direct exposure to sunlight may cause permanent damage to the CMOS sensor. Therefore, do not expose the Internet Camera's lens to sunlight directly. When operation is required in glaring light environment, it is recommended to use an iris lens.

The Internet Camera is designed for indoor only.

F. Specification

Video specification

Resolution:	640 x 480 pixel
Sensor:	Color CMOS sensor
Lens:	F:1.8, f:6.0 mm Board Lens
Minimum illumination	0.5 Lux
Gain control:	Automatic
White Balance:	Automatic
Motion Detection:	Yes

Image (Video Setting)

Image compression:	MPEG4
Frame rate:	30fps @ QQVGA, 30fps @ QVGA, 30fps @ VGA
Compression Rate selection:	Five levels: Very low/Low/ Middle/High/Very high
Frame rate setting:	5/7/10/15/30 (depends on the video format)
Video resolution:	160 x 112, 320 x 240, 640 x 480

Audio

MIC Input:	Internal MIC (mono)
Sensitivity:	42dB

Hardware

LAN Connector:	One RJ-45 port, 10/100M auto-sensed, AutoMDIX
Wireless LAN:	Built-in 802.11g WLAN
Communication protocol:	HTTP, TCP/IP, UDP, ARP, ICMP, BOOTP, RARP, DHCP, PPPoE, DDNS, UPnP, SMTP, SMB, NTP
CPU:	ADMtek 5120
RAM:	32MB
Flash ROM:	4MB
OS:	Linux
Power Supply:	DC 5V 2.5A, switching type
Power consumption:	8 Watt (1600mA x 5V)
LED Indicator:	Power/Link LED

Software

Browser:	Internet Explorer 5.0 or above
Application Software:	IPView Pro
OS supported:	Microsoft Windows 98SE/ ME/2000/XP

Operating Environment

Operating temperature:	$5^{O}C \sim 40^{O}C$
Storage temperature:	$-25^{O}C \sim 50^{O}C$
Humidity:	5% ~ 95%, non-condensing

EMI

FCC, CE, VCCI Class B

G. Glossary of Terms

NUMBERS

10BASE-T 10BASE-T is Ethernet over UTP Category III,IV, or V unshielded twisted-pair media.

100BASE-TX The two-pair twisted-media implementation of 100BASE-T is called *100BASE-TX*.

802.11g An IEEE standard for wireless local area networks. It offers transmissions speeds at up to 54 Mbps in the 2.4-GHz band.

A

Access point It is the hardware interface between a wireless LAN and a wired LAN. The access point attaches to the wired LAN through an Ethernet connection.

Applet Applets are small Java programs that can be embedded in an HTML page. The rule at the moment is that an applet can only make an Internet connection to the computer form that the applet was sent.

ASCII American Standard Code For Information Interchange, it is the standard method for encoding characters as 8-bit sequences of binary numbers, allowing a maximum of 256 characters.

ARP Address Resolution Protocol. ARP is a protocol that resides at the TCP/IP Internet layer that delivers data on the same network by translating an IP address to a physical address.

AVI Audio Video Interleave, it is a Windows platform audio and video file format.

B

BOOTP Bootstrap Protocol is an Internet protocol that can automatically configure a network device in a diskless workstation to give its own IP address.

C

Communication Communication has four components: sender, receiver, message, and medium. In networks, devices and application tasks and processes communicate messages to each other over media. They represent the sender and receivers. The data they send is the message. The cabling or transmission method they use is the medium.

Connection In networking, two devices establish a connection to communicate with each other.

D

DHCP Dynamic Host Configuration Protocol was developed by Microsoft a protocol for assigning dynamic IP addresses to devices on a network. With dynamic

addressing, a device can have a different IP address every time it connects to the network. In some systems, the device's IP address can even change while it is still connected. DHCP also supports a mix of static and dynamic IP addresses. This simplifies the task for network administrators because the software keeps track of IP addresses rather than requiring an administrator to manage the task. This means a new computer can be added to a network without the hassle of manually assigning it a unique IP address. DHCP allows the specification for the service provided by a router, gateway, or other network device that automatically assigns an IP address to any device that requests one

DNS Domain Name System is an Internet service that translates domain names into IP addresses. Since domain names are alphabetic, they're easier to remember. The Internet however, is really based on IP addresses every time you use a domain name the DNS will translate the name into the corresponding IP address. For example, the domain name *www.network_camera.com* might translate to *192.167.222.8*.

E

Enterprise network An enterprise network consists of collections of networks connected to each other over a geographically dispersed area. The enterprise network serves the needs of a widely distributed company and operates the company’s mission-critical applications.

Ethernet The most popular LAN communication technology. There are a variety of types of Ethernet, including 10 Mbps (traditional Ethernet), 100 Mbps (Fast Ethernet), and 1,000 Mbps (Gigabit Ethernet). Most Ethernet networks use Category 5 cabling to carry information, in the form of electrical signals, between devices. Ethernet is an implementation of CSMA/CD that operates in a bus or star topology.

F

Fast Ethernet Fast Ethernet, also called 100BASE-T, operates at 10 or 100Mbps per second over UTP, STP, or fiber-optic media.

Firewall Firewall is considered the first line of defense in protecting private information. For better security, data can be encrypted. A system designed to prevent unauthorized access to or from a private network. Firewalls are frequently used to prevent unauthorized Internet users from accessing private networks connected to the Internet, especially Intranets all messages entering or leaving the intranet pass through the firewall, which examines each message and blocks those that do not meet the specified security criteria.

G

Gateway A gateway links computers that use different data formats together.

Group Groups consist of several user machines that have similar characteristics such as being in the same department.

H

HEX Short for hexadecimal refers to the base-16 number system, which consists of 16 unique symbols: the numbers 0 to 9 and the letters A to F. For example, the decimal number 15 is represented as F in the hexadecimal numbering system. The hexadecimal system is useful because it can represent every byte (8 bits) as two consecutive hexadecimal digits. It is easier for humans to read hexadecimal numbers than binary numbers.

I

IEEE Institute of Electrical and Electronic Engineers.

Intranet This is a private network, inside an organization or company, that uses the same software you will find on the public Internet. The only difference is that an Intranet is used for internal usage only.

Internet The Internet is a globally linked system of computers that are logically connected based on the Internet Protocol (IP). The Internet provides different ways to access private and public information worldwide.

Internet address To participate in Internet communications and on Internet Protocol-based networks, a node must have an Internet address that identifies it to the other nodes. All Internet addresses are IP addresses

IP Internet Protocol is the standard that describes the layout of the basic unit of information on the Internet (the *packet*) and also details the numerical addressing

format used to route the information. Your Internet service provider controls the IP address of any device it connects to the Internet. The IP addresses in your network must conform to IP addressing rules. In smaller LANs, most people will allow the DHCP function of a router or gateway to assign the IP addresses on internal networks.

IP address IP address is a 32-binary digit number that identifies each sender or receiver of information that is sent in packets across the Internet. For example 80.80.80.69 is an IP address, it is the closet thing the Internet has to telephone numbers. When you "call" that number, using any connection methods, you get connected to the computer that "owns" that IP address.

ISP Internet Service Provider, is a company that maintains a network that is linked to the Internet by way of a dedicated communication line. An ISP offers the use of its dedicated communication lines to companies or individuals who can't afford the high monthly cost for a direct connection.

J

JAVA Java is a programming language that is specially designed for writing programs that can be safely downloaded to your computer through the Internet without the fear of viruses. It is an object-oriented multi-thread programming best for creating applets and applications for the Internet, Intranet and other complex, distributed network.

L

LAN Local Area Network a computer network that spans a relatively small area sharing common resources. Most LANs are confined to a single building or group of buildings.

N

NAT Network Address Translator generally applied by a router, that makes many different IP addresses on an internal network appear to the Internet as a single address. For routing messages properly within your network, each device requires a unique IP address. But the addresses may not be valid outside your network. NAT solves the problem. When devices within your network request information from the Internet, the requests are forwarded to the Internet under the router's IP address. NAT distributes the responses to the proper IP addresses within your network.

Network A network consists of a collection of two or more devices, people, or components that communicate with each other over physical or virtual media. The most common types of network are:
LAN – (local area network): Computers are in close distance to one another. They are usually in the same office space, room, or building.
WAN – (wide area network): The computers are in different geographic locations and are connected by telephone lines or radio waves.

NWay Protocol A network protocol that can automatically negotiate the highest possible transmission speed between two devices.

P

PING Packet Internet Groper, a utility used to determine whether a specific IP address is accessible. It functions by sending a packet to the specified address and waits for a reply. It is primarily used to troubleshoot Internet connections.

PPPoE Point-to-Point Protocol over Ethernet. PPPoE is a specification for connecting the users on an Ethernet to the Internet through a common broadband medium, such as DSL or cable modem. All the users over the Ethernet share a common connection.

Protocol Communication on the network is governed by sets of rules called protocols. Protocols provide the guidelines devices use to communicate with each other, and thus they have different functions. Some protocols are responsible for formatting and presenting and presenting data that will be transferred from file server memory to the file server's net work adapter Others are responsible for filtering information between networks and forwarding data to its destination. Still other protocols dictate how data is transferred across the medium, and how servers respond to workstation requests and vice versa. Common network protocols responsible for the presentation and formatting of data for a network operating system are the Internetwork Packet Exchange (IPX) protocol or the Internet Protocol (IP). Protocols that dictate the format of data

for transferors the medium include token-passing and Carrier Sense Multiple Access with Collision Detection (CSMA/CD),implemented as token-ring, ARCNET, FDDI, or Ethernet. The Router Information Protocol (RIP),a part of the Transmission Control Protocol/Internet Protocol (TCP/IP) suite, forwards packets from one network to another using the same network protocol.

R

RARP Reverse Address Resolution Protocol, a TCP/IP protocol that allows a physical address, such as an Ethernet address, to be translated into an IP address.

RJ-45 RJ-45 connector is used for Ethernet cable connections.

Router A router is the network software or hardware entity charged with routing packets between networks.

S

Server It is a simple computer that provides resources, such as files or other information.

SMTP The Simple Mail Transfer Protocol is used for Internet mail.

SNMP Simple Network Management Protocol. SNMP was designed to provide a common foundation for managing network devices.

Station In LANs, a station consists of a device that can communicate data on the network. In FDDI, a station includes both physical nodes and addressable logical devices. Workstations, single-attach stations, dual-attach stations, and concentrators are FDDI stations.

Subnet mask In TCP/IP, the bits used to create the subnet are called the subnet mask.

T

(TCP/IP) Transmission Control Protocol/Internet Protocol is a widely used transport protocol that connects diverse computers of various transmission methods. It was developed y the Department of Defense to connect different computer types and led to the development of the Internet.

Transceiver A transceiver joins two network segments together. Transceivers can also be used to join a segment that uses one medium to a segment that uses a different medium. On a 10BASE-5 network, the transceiver connects the network adapter or other network device to the medium. Transceivers also can be used on 10BASE-2 or 10BASE-T networks to attach devices with AUI ports.

U

UDP The User Datagram Protocol is a connectionless protocol that resides above IP in the TCP/IP suite

ULP The upper-layer protocol refers to Application Layer protocols such as FTP,SNMP, and SMTP.

User Name The USERNAME is the unique name assigned to each person who has access to the LAN.

Utility It is a program that performs a specific task.

UTP Unshielded twisted-pair. UTP is a form of cable used by all access methods. It consists of several pairs of wires enclosed in an unshielded sheath.

W

WAN Wide-Area Network. A wide-area network consists of groups of interconnected computers that are separated by a wide distance and communicate with each other via common carrier telecommunication techniques.

Windows Windows is a graphical user interface for workstations that use DOS.

Workgroup A workgroup is a group of users who are physically located together and connected to the same LAN, or a group of users who are scattered throughout an organization but are logically connected by work and are connected to the same network group.

Workstations Workstation refers to the intelligent computer on the user's desktop. This computer may be an Intel-based PC, a Macintosh, or a UNIX-based workstation. The workstation is any intelligent device a user works from.